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A COMPARISON OF SCHOOL BONDING PRACTICES AND PROCEDURES IN MASSACHUSETTS WITH SEVERAL OTHER SELECTED STATES

A Dissertation Presented

by

JOHN T. SCHOMER, JR.

Submitted to the Graduate School of the
University of Massachusetts
in partial fulfillment of the requirements
for the degree of

DOCTOR OF EDUCATION

April 1973

Major Subject: Administration

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A COMPARISON OF SCHOOL BONDING PRACTICES AND PROCEDURES IN MASSACHUSETTS WITH SEVERAL OTHER SELECTED STATES

A Dissertation

by

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CHAPTER I

BACKGROUND AND IMPORTANCE OF THE PROBLEM

Introduction

Since the end of World War II, the tremendous acceleration in population growth has been felt in many ways, one being the need for more schools. This, in turn, has accelerated the need for school construction funds. The growing economy has also created another demand for money. These developments, therefore, make it essential for regional school districts and municipalities to plan their capital outlay carefully in order to obtain bond money at reasonable rates of interest for school construction. Lloyd E. McCann discusses the rise to prominence of debt management in school administration:

> Debt management has not always occupied so prominent a place in school administration. When fewer children attended schools for shorter periods of time, there was less need for extensive school plants and programs, and there was less need to create debt to provide them. But, as the school population has grown, larger combinations of capital have been required to provide schools. A few communities today are able to finance all needed investments in schools on a pay-as-you-go basis. Most cities resort to some form of indebtedness to provide school facilities and then repay the investment through a systematic plan.[1]

Annual budgets can be adjusted within limits from year to year, but the debt structure of a community is of a more permanent character; most school bond issues extend from five to forty years. The National Citizens' Commission for the Public Schools stressed the need for a community to make public its economic stability in order to sell bonds at

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[1] Lloyd E. McCann, Law and the School Business Manager, Ed. Lee O. Garber (Danville, Illinois: The Interstate Printers and Publishers, Inc., 1957), p. 109.

the best price:

> In school bond sales, as in other financial transactions, the interest rates generally decrease as the safety of the investment increases. This means that a school district which takes the trouble to publicize its economic assets properly can generally sell its bonds at a lower interest rate than a district which has about the same degree of economic stability, but which fails to make its assets known. The savings in interest charges which result more than make up for the expenditure of time necessary to collect economic data and present it in easily understandable form. To make a very simple example, a school district which floats a $1,000,000.00 bond issue at two percent interest pays $20,000.00 the first year in interest rates, as compared to the $25,000.00 the same year which a community would pay on the same bond issue at 2.5% interest. Over a period of 30 years, the savings to the community paying the lower rate on serial bonds would amount to about $78,000.00.[2]

Massachusetts School Construction Growth

The Massachusetts Legislature in 1948 passed Chapter 645 of the Acts of 1948 which provided monetary aid for school construction retroactive to January 1, 1946.[3] School construction projects approved under this act totaled 621 projects the first ten years; 722 projects the second ten years; and 360 projects the last five years. The 1,703 school projects initially cost $1,875,249,002.59 of which the Commonwealth of Massachusetts, subject to legislative appropriation, is obligated to pay an estimated $807,825,333.27 in construction grant reimbursements. The average layman might be led to believe that the local communities need only raise the difference by taxation or bond issue. This is not the case, however. In Massachusetts the local school district or municipality

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[2]National Citizens' Commission for the Public Schools, How Do We Pay for Our Schools? (New York: Bulletin of the National Citizens' Commission for the Public Schools, 1954), p. 35.

[3]See Appendix E.

must provide initially for the total cost of the school construction and receives the State's share over a 5-20 year period; thus the State's share usually covers only the school district's interest costs or, perhaps in addition, a small percentage of the principal.

Importance of the Study

Charles Benson, a noted economist, points out that writers on school administration have focused very little attention on school bonding interest costs despite a wide fluctuation of interest rates in the postwar period. He also notes that the tremendous backlog of needed school construction makes interest costs a prime consideration.[4]

Proposed Public School Expenditures

The Report of the Special Commission Established to Make an Investigation and Study Relative to Improving and Extending Educational Facilities in the Commonwealth, referred to hereafter as the Willis-Harrington Report, states, "Nearly 40 percent of the school buildings still in use in 1962 throughout the Commonwealth were constructed prior to 1920."[5] The report reveals that 87 percent of the schools built prior to 1920 were not classified as fire-resistive.[6] This report also reveals a growing and continuing need for additional school facilities. It

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[4]Charles Scott Benson, Are School Debt Finance Costs Too High? (Cambridge: New England School Development Council, 1962), p. i.

[5]The Commonwealth of Massachusetts. Report of the Special Commission Established to Make an Investigation and Study Relative to Improving and Extending Educational Facilities in the Commonwealth. (Boston: Wright and Potter Printing Company, Legislative Printers, 1965), p. 366.

[6]Ibid., p. 369.

indicates that many of the following conditions in various combinations will continue to make it necessary for the 351 cities and towns of the Commonwealth to construct or refurbish school facilities:[7]

1. Increasing enrollments stemming from:
   a. Normal population growth.
   b. Larger proportion of the enrollment at the secondary level where space requirements are greater.
   c. Possible reduction of private and church enrollments.
   d. Retention of more students in school for longer periods of time.
2. Movements of large numbers of people from one area to another.
3. New educational programs reflecting the new technology and parallel change in every field of study.
4. Development of existing programs such as occupational and special education requiring special equipment or staff.
5. Changing balance of enrollment among programs.
6. Augmentation of staff.
7. Improvements in instructional and administrative arrangements.
8. Improved standards for health and safety.
9. Replacement of worn-out facilities.

The Willis-Harrington Report also cites a Health, Education and Welfare Survey of Massachusetts completed in 1962. This survey reports a shortage of school facilities for approximately 58,000 students. Also in

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[7] Ibid., pp. 372-373.

recent years the enrollment increases in Massachusetts' schools have amounted to more than 30,000 additional students and will continue at a declining rate.[8]

The Willis-Harrington Report made five major recommendations in the area of school facilities:[9]

1. Analysis of building costs, with appropriate regard to the natural and reasonable variation between urban and rural areas, and among facilities of divergent nature, but focusing directly on opportunity for cost-savings and prudent investments. (Emphasis mine.)

2. Examination of the bonding capability of cities and towns, to include determination of the feasibility of establishing a state bonding agency or other means of lending the Commonwealth's full faith and credit where they would help. Some communities are already in a better bonding position than the state and the state's relative position would not be improved by its support of the less able places, yet the means must be found to provide for facilities wherever they are needed.

3. Extension of facility planning service so that every local planning group may have ready access to the skills of the state staff, the published materials of this and other states, and a pooling of improved resources.

4. Revision of building codes to reflect realistic and necessary requirements, within reasonable costs, and to provide for coordinated action in these matters by the school, public health, and other agencies.

5. Review of the possibilities for standardizing certain facility components as an alternative to stock plans, since experience continues to indicate the impracticability of the latter.

The need for additional facilities will become even more pressing if the Massachusetts State Board of Education implements the first priority of the Willis-Harrington Report:[10]

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[8] Ibid., pp. 369-373.

[9] Ibid., p. 378.

[10] Ibid., p. 402.

> Provision for additional professional staff members in the public schools. First priority is given to the proposal to expand professional staffs so that schools can do more effectively what they are attempting to do. The minimum staff ratio recommended is fifty professional workers per thousand pupils in the elementary grades. To reach that level would require about thirty-six hundred additional staff members, and might cost from twenty-five to fifty million dollars of state and local funds, depending on the starting level at which new personnel are employed.

The Willis-Harrington Report does not state the cost of the additional facilities these teachers will require. Conservatively, it will exceed $50,000.00 per classroom or an additional cost of more than $180,000,000.00 for new construction. Significantly, the State Board of Education has already adopted a task force report calling for the implementation of the aforementioned standards but has set no date as yet for their implementation.[11]

At its October 24, 1967, meeting,[12] the Board adopted the first section of the second recommendation of the Willis-Harrington Report which will require additional construction:[13]

> Extension of school services to younger children. Second priority is assigned to the extension of school services to younger children by:
>
> a) Requiring kindergartens to be available for five-year-olds.
>
> b) Requiring attendance of six-year-olds.
>
> c) Authorizing state aid for school districts that offer schooling to three- and four-year-olds and requiring such school services to be available for disadvantaged children.

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[11] Massachusetts State Board of Education, Minutes, (November 21, 1967). See also Massachusetts Department of Education, Staffing Massachusetts Schools, (Boston: Massachusetts Department of Education, 1968).

[12] Massachusetts State Board of Education, Minutes, (October 24, 1968).

[13] Willis-Harrington Report, p. 402.

The cost of implementing the above recommendation, based on 1967 (not 1972) estimates, will approach $79,000,000.00. The State's share was computed in 1967 to be about $25,000,000.00, with the local cities and towns paying the remaining $54,000,000.00.[14]

The third recommendation of the Willis-Harrington Report was enacted by the State Legislature in 1966.[15] It called for:

> Extension of opportunities for low-achievers. Third rank in priority is given to the costs of staffing so that children whose learning achievements are significantly below their capacities can get additional help in after-school classes and through individual help. This service might add from twelve to fifteen million dollars in state and local costs.

As yet there has been relatively little movement to act on the sixth recommendation of the Willis-Harrington Report:[16]

> Extension of public school education beyond grade 12. Sixth priority is assigned to extension of the public school program upward to authorize and support instruction in grades 13 and 14 in occupational and evening programs. Such extensions cannot (and should not for orderly development) come all at once, since there would be an imbalancing shift among public and private enrollments. The costs are difficult to estimate but might run from fifteen to twenty-five million dollars annually.

A careful examination of Table 1 reveals that if these six recommendations of the Willis-Harrington Report are fully implemented, $90,000,000.00 to over $170,000,000.00 will be added to the tax burden of the citizens of Massachusetts.

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[14] Kindergarten Study Committee, Toward Kindergarten Education for All Massachusetts Children, (Boston: State Department of Education, 1967), p. N-9.

[15] Chapter 71, Section 46 K of the Massachusetts General Laws.

[16] Willis-Harrington Report, pp. 402-403.

TABLE 1

ESTIMATED ADDITIONAL STATE AND LOCAL EXPENDITURES NEEDED TO ACHIEVE MINIMUM AND DESIRABLE LEVELS OF IMPROVEMENT IN THE PUBLIC SCHOOLS[18]

Priority	Improvement	Millions of Dollars	
		Minimum	Desirable
1.	Provision for additional staff members in the public schools .	25	50
2.	Extension of school services to younger children.	18	40
3.	Extension of opportunities for low-achievers	12	15
4.	Lengthening of the school year for all	-	-
5.	Use of 12-month employment contracts	20	40
6.	Extension of public school education beyond grade 12.	15	25
	TOTAL	90	170

18. Ibid., p. 404.

Curtailment of Non-Public School Enrollment

According to a study done by Campbell, Aldrich, and Nulty, enrollment in Massachusetts non-public schools from 1968 to 1971 dropped by 24,685 students. Of these, 19,698 students were enrolled in the elementary grades (K-8) and 4,739 were enrolled at the secondary level. The same study projects that in 1975 from 50,790 to 100,000 additional students, grades K-8, will go from private to public schools because of two recent United States Supreme Court decisions (Tilton v. Richardson, 403 U.S. 672, June 29, 1971, and Lemon v. Kurtzman, 403 U.S. 602, June 29, 1971). These decisions effectively bar the use of public funds for religiously affiliated elementary and secondary schools. Based on the foregoing figures it has been projected that 1,570 additional classrooms will be needed.[17]

Deficiency in Number of Classrooms

The United States Office of Education conducted a survey of the public school facilities in Massachusetts in February, 1965, and reported 36,400 classrooms in operation. Of these, 2,900 classrooms were classified as combustible; furthermore, 800 classrooms, or about 2.3 percent, were in buildings with four or more serious deficiencies, but 340 buildings had three or more deficiencies. Although many of these deficiencies could be remedied, some would require substantial investment.[18]

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[17] Campbell, Aldrich, and Nulty, A Systems Approach for Massachusetts Schools, (Boston: Massachusetts Advisory Council on Education), p. 167.

[18] George J. Collins and William L. Stormer, Conditions of Public Schools, 1964-1965, (Washington: United States Office of Education, 1965), p. 30.

In 1970, the Massachusetts Advisory Council on Education (MACE) commissioned Campbell, Aldrich, and Nulty, to do a study of Massachusetts school construction practices. In their report, A Systems Approach for Massachusetts Schools, they predict a need for 13,767 to 15,237 additional classroom spaces by 1975.[19] A detailed breakdown of the classrooms needed is given in Table 2.

Increasing Interest Rates and Associated Problems

In 1970 the Massachusetts Department of Education, Division of Research and Development, prepared a special printout for the MACE study of school construction in which it cited 286 cities and towns plus 70 regional school districts having an outstanding debt (principal only) of $795,062,161.00. These school districts and municipalities made a repayment of $70,865,436.00 for the fiscal year ending June 30, 1970. About 45 percent of this represents State reimbursement to school districts for construction grants under Chapter 645 of the School Building Assistance Act. These municipalities and regional school districts also repaid $29,639,155.00 in interest for the fiscal year ending June 30, 1970, thus adding to the project cost of the new school and, in turn, to the local tax rate.[20]

The MACE study of school construction expressed great concern over the increase in interest rates over the past twenty years from a low of 1.40 percent in 1950 (Westwood) to 7 percent paid in 1970 (Southwick). This increase in the rate of interest represents an increase of 300 percent

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[19] Campbell, Aldrich, and Nulty, op. cit., p. 177.

[20] Ibid., p. 65.

TABLE 2

A SUMMARY OF THE ADDITIONAL INSTRUCTIONAL SPACES NEEDED IN MASSACHUSETTS SCHOOLS BY 1975[22]

	Additional Classroom Spaces Needed
A. New Students and Overcrowding:	
1. Need for new students to 1975	10,423
2. Need to eliminate overcrowded conditions as of 1964	5,000
	15,423
3. Less net new construction during the period 1965-1970	- 4,808
	10,615
B. Additional Requirements	
1. Transfers from private schools	1,570 to 3,140
2. Replacement of classrooms needing major repairs or having significant deficiencies	1,500
Additional need to 1975	3,070 to 4,540
C. Total need for students, overcrowding, transfers, and deficiencies	13,767 to 15,237 classrooms

22. Ibid., p. 199.

over the past 20 years, and, in addition, there has been almost a 50 percent increase in the median interest rate in Massachusetts between 1967 and 1971.[21]

The Cost of Interest

The average Massachusetts taxpayer is generally unaware of the impact of the interest rate on the total cost a municipality is required to pay on its bonds for school construction. If a municipality or regional school district issues $1,000,000.00 in bonds at the rate of 6 percent interest with the principal being paid in equal annual installments, the total amount of interest will be $630,000.00 or 63 percent of the principal amount. If the interest rate is only one percent, the total amount of interest will be $105,000.00, or 10.5 percent of the principal. The following table illustrates the amounts of interest payable on a twenty year bond issue at various rates of interest.[22]

Recent Developments in Massachusetts

The month of November, 1971, marked two important events in the history of school financing activities in the Commonwealth of Massachusetts which have implications for this study. The first significant event was the passage of Chapter 1010 in the Acts of 1971 which further amends Chapter 645 of the General Laws of Massachusetts. This amendment provides changes in the State construction aid formula so that "all cities

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[21] Ibid., pp. 65-66.

[22] I am indebted to Dr. Joseph Robinson, Senior Legal Counsel for the Massachusetts Department of Education, for this information which also can be found in the MACE Report on School Construction on p. 66.

TABLE 3

INTEREST RATE PER MILLION DOLLARS FOR A TWENTY YEAR PERIOD

Amount of Bonds	Interest Payable	Total Amount of Interest	Interest Percentage of Principal
$1,000,000.00	1 %	$105,000.00	10.5 %
$1,000,000.00	2 %	$210,000.00	21.0 %
$1,000,000.00	3 %	$315,000.00	31.5 %
$1,000,000.00	4 %	$420,000.00	42.0 %
$1,000,000.00	5 %	$525,000.00	52.5 %
$1,000,000.00	6 %	$630,000.00	63.0 %
$1,000,000.00	$6^1/_2$ %	$682,000.00	68.25 %
$1,000,000.00	7 %	$735,000.00	73.5 %

and towns shall receive a flat grant of fifty percent except cities and towns in depressed areas, which will receive a flat grant of sixty-five percent." Appendix E lists all the Massachusetts communities that are eligible for this 65% flat grant. This act was made retroactive to include all projects approved by the Department of Education after January 1, 1971. The second feature of this new law is that the State will assume the "interest paid or payable by such city, town, regional school district or county on any bonds or notes issued to finance such project."

On the surface the passage of this act would seem to end the need for any further study of bonding procedures in Massachusetts. This is not the case, however, for while it is true the State will pay the local community up to 65 percent of the total interest incurred for new construction or rehabilitation, this rate of interest is that which the local unit must pay, not that which the State would pay under similar circumstances! It should be remembered that only five communities have a better credit rating than the State, thus, the money of the taxpayers of Massachusetts is being wasted since there is little or no incentive for the local unit to exercise thrift when the State will pick almost two-thirds of the interest costs.

Appendix F shows that the vast majority of the communities that do not qualify for the 65 percent flat grant are small Massachusetts communities that carry an unrated credit rating usually assuring them a higher interest rate when they build schools. Thus the rich get richer and the poor get poorer!

The increased cost of implementing this new flat grant program as well as the increased interest cost create more problems. One estimate

is that it will cost $2,000,000.00 for the flat grant proviso and another $2,500,000.00 for the increased interest cost. The MACE study of school construction indicates that Massachusetts cities, towns, and regional school districts are now spending an additional $29,639,155.00 for annual interest costs.[23]

It is conceivable that interest costs for the first year will be only $2,500,000.00 under this program, but they could exceed $15,000,000.00 if construction costs continue to rise. It would seem from these data that the legislature may have voted for a very expensive iceberg!

The second significant event in school finance in Massachusetts was in November, 1971, with the completion of the MACE study of school construction. In this report five obstacles to efficient school construction in Massachusetts are cited:[24]

1. The tax base and voter resistance.

2. State laws and procedures that create delay and potential confusion and that lead to uneconomical building practices.

3. The state of the school construction industry.

4. The isolation of school districts and their lack of expertise in building.

5. The additional cost of interest payments and inflation.

The study team's report of school construction contains four important conclusions:[25]

1. That there is an immediate need for school construction.

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[23] Campbell, Aldrich, and Nulty, op. cit., p. 65.

[24] Campbell, Aldrich, and Nulty, op. cit., pp. 5-8.

[25] Ibid., p. 8.

2. That present procedures for school construction are lengthy, difficult, sometimes inefficient, and serve to drive the cost of construction up.

3. That fragmentation of local projects and the construction industry creates a number of problems including delay in building completion.

4. That there are steps that can be logically taken to meet the State building needs in a more efficient manner.

In the area of interest payments the MACE study of school construction stated that:

> Interest payments can add as much as 60% to the cost of a new school over a 20-year period. So long as bonds are floated on a local basis, these costs will remain high. A system under which bonds could be supported by the State would reduce the cost of bonds by giving them a higher rating, by attracting large syndicates interested in purchasing them, and by making it possible to float bonds at times when the market is most favorable. This single change in current school building procedures would save millions of dollars for citizens of the State.[26]

The study recommended that legislation be passed to create a Massachusetts School Construction Corporation (MSCC) as a State agency under one of the existing secretariates. Some of its functions are described as follows:

> The financial powers to be granted the new corporation would enable it to issue, subject to the approval of the Governor and the General Court, notes and bonds backed by the full faith and credit of the Commonwealth. Bond issues could be sufficiently large to attract nationwide syndicates, thereby, enabling the Corporation to obtain the lowest possible rate of interest available at any given time and would eliminate the expense resulting from the current practice of issuing multiple bonds. (It is estimated that this alone will reduce current interest payments by 10%.) The State would provide the initial appropriation for

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[26] Ibid.

> start-up costs. Thereafter, money that is required for the operation of MSCC (probably 2% to 3% of expenditures) and the funding of projects would be derived from a portion of the construction cost savings made. Annual payments of principal and interest on these bonds would be made from the State's general revenues.[27]

This recommendation does not negate the need for this study, but rather accentuates the need for it to see if the formation of a State school construction corporation is really the most economical way to sell school bonds. The plan recommended by the MACE study does not fall into any one category of school building procedures; however, in parts it is similar to the procedures used by Hawaii, Georgia, and Florida.

Conclusion

The cost of providing new school facilities in Massachusetts by 1975 has been estimated in the MACE study of school construction to be in excess of one and one half billion dollars. Inflation and interest costs will probably increase the ultimate costs to between two and three billion dollars.[28]

It can be seen from the data presented that there will be an increase in the public school population by 1975 caused by transfers from the private sector as well as by the normal increase of births. These additional students will require additional classrooms and staffing. If the State Board of Education decides to implement all the recommendations of the Willis-Harrington Report, funds must be found to pay for these increased educational services, teachers, and classrooms. The MACE study

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[27] Ibid., p. 14.

[28] Ibid., p. IV.

of school construction has pointed out that many of our schools are in poor condition, lacking modern conveniences and safety devices. There is no doubt that the need for added classrooms exists! New methods must be found to finance new school construction as economically as possible!

CHAPTER II

METHODOLOGY

Definition of Terms

For the purpose of this investigation, the following definitions of terms will apply:

Bond: A written promise, generally under seal, to pay a specified sum of money (called the face value), at a fixed time in the future (called the date of maturity), and carrying interest at a fixed rate, usually payable periodically.

Bond Attorney: A term used to denote the attorney whose advice is sought on the legality of procedures and wording of documents necessary for the issuance and sale of bonds.

Bond Issues: Any given number of bonds, issued by one obligor, that may be one or several denominations, that are all of a like nature, and that, if secured, are all and equally secured under one mortgage.

Bond Ratings: Agencies make investigations of municipalities issuing and selling bonds and rate them for investors. These ratings take into account many factors of interest to the investor, such as risk, type of community, over-lapping debts, diversity of industry, record of debt payments, and efficiency of operation of the municipality.

Bonded Debt: That portion of the indebtedness of a unit of government (state, county, school district) represented by outstanding bonds.

Callable Bonds: Bonds that permit the issuer to call bonds prior to maturity, and the conditions under which such bonds are called are

usually specified in the bond contract.

Fiscal Agent, Financial Advisor, Fiscal Consultant, Bond Consultant: All the terms and expressions similar to them are variations of the same thing--an individual or organization employed by a school district to provide advice and assistance in long-term capital planning of the passage of bond issues which go with it. Fiscal agents usually are responsible for all details of the sale of bonds and the transfer of bonds to the buyer for cash. They prepare the prospectus and the notice of sale, supervise bidding, print the bonds, and advise on such things as sale dates, maturity schedules, and transcripts of proceedings. Sometimes the fiscal agent is contracted to work with the school district on the legal technicalities of the referendum as well.

Float: "To float" a bond issue means to sell the bonds to raise money for capital improvements, etc.

Foundation Program: A term used by authorities in school finances to describe the minimum program of education that should be accepted as a basis for equalization of educational opportunities. It would be the job of state aid or federal aid to provide the funds necessary to provide this minimum equality without requiring anyone to pay more taxes than anyone else. Local incentive has the right to take a school program above the minimum level if it chooses to do so by going above the foundation.

Funded Debt: That portion of the indebtedness of a school district which is in the form of bond issues. Funded debts and bonded debts are used synonymously, although the latter term is preferred.

General Obligation Bonds: Bonds for whose payment the full faith and credit of the issuing body are pledged. More commonly, but not

necessarily, general obligation bonds are considered to be those payable from taxes and other general revenues.

Interest: Money paid by a borrower to a lender for the use of loan funds spent for capital equipment or for immediate consumption goods.

Legal Investment List: The laws of certain states regulate specifically the investments which savings banks, insurance companies, trustees, etc., are permitted to make. A list of such "legal investments" is published periodically by a state official, such as the state banking commissioner. Bond issues are frequently advertised with the expression "legal for New York savings banks" or "legal for Massachusetts savings banks." This information serves one purpose in that it enables bank officials in these states to know that banks may purchase the bonds without violation of legal restrictions.

Legal Opinion: When a school district or municipality issues bonds, the procedures in which it must engage are surrounded with legal technicalities. To avoid legal complications, an attorney specializing in municipal bond issues is employed to make certain that the bonds are issued in strict compliance with legal regulations. When the bonds are ready for sale, the attorney issues a preliminary opinion as to the legality of the issue. When the bonds have been issued and sold, a final opinion is also rendered by the bond attorney.

Major Bond Issue: In this study this will refer to bond issues of $50,000.00 or more.

Municipal Bond: In a literal sense, municipal bonds refer to the bonds of cities, towns, and villages. In the bond trade, however, municipal bonds are taken to mean legally authorized bonds of cities, towns,

and villages, as well as those of states, counties, and special tax districts organized for school, park, sanitary, and other purposes.

Negotiable: A security which can be transferred from one person to another by directly passing from hand to hand, as in the case of money, coupon bonds, or a check.

Pay-as-you-go plan: A method of financing school building programs either providing that a single tax large enough to pay for the required property shall be levied and collected during the same year in which the buildings are built and equipped, or that a certain portion of the school taxes shall be put aside each year, sufficient for new buildings as needed.

Prospectus: A statement summarizing the pertinent facts relative to a proposed bond issue. The prospectus may be typewritten or printed, depending upon the size of the proposed bond issue. Details in a prospectus may range from a brief summary of pertinent items relating to the bond issue to a comprehensive description of the issue as well as an account of the economic, social and cultural aspects of the community issuing the bonds. Prospecti are circulated among bond houses, investment agencies, and other parties who might be interested in submitting bids for the purchase of the bond issue.

Quasi-municipal: An agency established by the state primarily for the purpose of helping the state to carry on its functions; for example, a county or school district.

Ratings: Bonds issued by municipal corporations are assigned ratings according to relative value or standing. Ratings are made by statistical agencies which have developed standards for evaluating the

bonds of a municipality.

Recognized Legal Opinion: A pronouncement by one of a group of specialists in the nation who has gained a good reputation for his work in examination of bond issues for technical flaws which could cause difficulties for purchasers.

Redemption Bonds: Issued to redeem (pay off) other bonds which are due or which the municipality has the right to repay before maturity. Same as "refunding bond."

Refunding: Issuing new bonds to replace or pay off outstanding bonds. The usual objectives of refunding are: (1) to secure sufficient funds to pay the bondholders, (2) to reduce the rate of interest on existing obligations, and (3) to rearrange the debit maturity schedule.

School Bond: A school bond is a quasi-corporate, quasi-municipal general obligation bond issued by a school district.

School District Official: This term is used to denote superintendents, business managers, and other paid employees of school districts who have responsibility connected with bond issues. This term also includes members of school committees where such board members take an active part in the issuance and sale of bonds.

Sealed Bid: A condition usually imposed by the school district or municipality upon prospective buyers to the effect that every bid or proposal to purchase the bonds shall be in writing, placed in a sealed envelope, and delivered on or before a certain date to the officer designated to receive the bids.

Securities: Written or printed certificates giving their lawful holders a right to demand and receive property or payment. It is a

Statement of the Problem

In this study, the method of school bonding employed by Massachusetts municipalities and regional school districts will be compared with methods empolyed in eight other states or governmental sub-divisions. The following eight methods of school bonding were examined and compared:

1. Marketing of bonds by the local school district itself.

2. Marketing of bonds and the construction of schools by local school building authorities.

3. Marketing of bonds and the construction of schools by state school building authorities.

4. Marketing of bonds for school construction whose repayment is guaranteed by special state revenues.

5. Marketing of bonds by a state government. The proceeds of these bonds are loaned to school districts for school construction with the local districts required to make annual repayments of the principal and interest.

6. Marketing of bonds by state school building authorities with the service charges being paid annually by legislative appropriation.

7. Marketing of bonds by a state government which has the total responsibility for constructing and operating the schools.

8. Marketing of bonds by county governments which have the whole or part of the responsibility for the construction of schools.

Six of the states listed below were chosen to be compared with Massachusetts because they have obtained the largest number of bond sales in the particular procedure they represented. (The states are numbered

to refer back to the categories listed above, i.e., in Illinois, number 2, marketing of bonds by the local school district itself, category 2.) The state of Hawaii was chosen because it is the only state where bonds are now marketed by the state government which also has total responsibility for constructing and operating the schools.

1. Massachusetts
2. Illinois
3. Kentucky
4. Pennsylvania
5. Florida
6. California
7. Georgia
8. Hawaii

The basic list of municipal bond sales to be analyzed was compiled during the period July 1, 1967, to June 30, 1968, from the Bond Buyer and from the data available from the National Center for Educational Statistics. In addition, data from other sources for the years 1960-1971 were examined.[1]

A comparison was made of the average net interest rates obtained by various methods of marketing to ascertain if one or more of the methods received a more favorable average net interest rate than did the present practice in Massachusetts where the process is turned over to the regional banking interests.

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[1]I am indebted to Mr. Richard W. Barr of the Office of Education, National Center for Educational Statistics, Washington, D.C., for allowing me to examine his files so that I might verify the accuracy of my data.

This study was initially limited to the period July 1, 1967, through June 30, 1968, as these data were most readily available when the dissertation was started. Suplementally, the data were expanded to include the period from 1960-1971 in order to assure that the findings were generally representative and not peculiar to one year or situation.

This study will conclude with recommendations for strengthening and improving school bonding practices in Massachusetts. Procedures for implementing these recommendations will be developed.

CHAPTER III

REVIEW OF RELATED LITERATURE

Introduction

Efforts to raise funds for the construction and maintenance of public schools date back to colonial times. Accounts of these efforts can be found in two histories of American education--one by Dexter[1] and the other by Cubberly.[2]

Prior to the turn of the century, school construction was primarily the responsibility of the local and municipal authorities on a pay-as-you-go basis. For this reason, early educational research regarding school bonding is relatively scarce.

Early Studies in School Bonding

Most of the early studies treated school bonding only indirectly, tending to focus on whether state financing was apportioned properly and whether the state should reward local school districts for outstanding efforts by providing funds for purposes like school construction and upkeep.[3]

Updegraff's study of rural New York State in the early twenties

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[1]Edwin Grant Dexter, A History of Education in the United States, (New York: The Macmillan Company, 1904).

[2]Ellwood P. Cubberly, History of Education, (Cambridge: Riverside Press, 1920).

[3]Ellwood P. Cubberly, School Funds and Their Apportionment, (New York: Teachers College, Columbia University, 1905).

advocates a variable level of equalized foundation support programs. This proposal acts as incentive to school districts to spend above the foundation level for school expenditures since the state supports these added expenditures.[4]

Strayer and Haig stress equalized educational opportunity and advocate that the state adopt an educational program which is available to all schools. Indirectly, school construction is involved in the state's efforts to provide equalized educational opportunity because the money saved can be used for school construction.[5]

It is generally conceded by students of public school finance that Fowlkes produced the first comprehensive study of school bonding. In this work, Fowlkes outlines the legal and financial implications of school bonding and presents a concise review of the structure of municipal bond practices as they existed in the early twenties.[6]

Halsey, of Teachers College, Columbia, also reported in the late twenties on the debt practices of the public schools of Florida. Halsey emphasizes that school administrators should be trained in the proper management of school bonding programs if the school districts are to save money.[7]

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[4]Harlan Updegraff, Rural School Survey of New York State, (Ithaca: Joint Committee on Rural Schools, 1922).

[5]George D. Strayer and Robert M. Haig, The Financing of Education in the State of New York, (New York: The Macmillan Company, 1923).

[6]John Guy Fowlkes, School Bonds, (Milwaukee: Bruce Publishing Company, 1924).

[7]Henry R. Halsey, Borrowing Money for the Public Schools, (New York: Teachers College, Columbia University, 1929).

Essex, in the early thirties, studied the question of pay-as-you-go versus bonding. He concludes that even though initially pay-as-you-go is the less expensive method of constructing schools, the difference in the cost of the two plans is less than it first appears. He points out that if business can be considered an economically productive enterprise and school cannot, there is a possibility that money in pay-as-you-go school construction would earn more in the possession of the taxpayers than the cost of the interest payment in a bonding plan.[8]

In the 1930's, Smith,[9] Matzen,[10] and Alexander[11] studied facets of existing legal limitations regarding education, bonding, and taxation.

In the mid-twenties, Mort proposed that the capital outlay for New York State school construction could be financed by simply adding a fixed percent to the current operating position of the existing state foundation program.[12]

Even though the studies cited have no direct bearing on this study, they have been included to serve as an historical background.

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[8]Don L. Essex, Bonding Versus Pay-as-You Go in the Financing of School Buildings, (New York: Teachers College, Columbia University, 1931).

[9]James H. Smith, Legal Limitations on Bonds and Taxation for the Public School Buildings, (New York: Teachers College, Columbia University, 1930).

[10]John Mathiason Matzen, State Constitutional Provisions for Education, (New York: Teachers College, Columbia University, 1931).

[11]Uhlman S. Alexander, Special Legislation Affecting Public Schools, (New York: Teachers College, Columbia University, 1939).

[12]Paul R. Mort, State Support for Public Schools, (New York: Teachers College, Columbia University, 1926).

Studies After World War II

After World War II, school bonding studies for the most part emphasize the improvement of bonding and financing techniques in order to create savings for the taxpayers as well as to point out ways to have successful bond elections. These studies have been classified into the following categories for the purposes of this study: A. School Authorities, B. School Bond Elections, C. Credit Ratings, D. Legal Counsel or Fiscal Agents, and E. Interest Rates.

A. School Authorities

In his study of the school authority idea in Pennsylvania, Rovegno concludes that there are six advantages to using an authority in financing local school construction:[13]

1. Adequate housing for students can be provided even though debt limitations are present.
2. A lower rate of interest can be obtained.
3. Antiquated laws can be ignored.
4. Political alliances can be avoided.
5. School district boundaries can be crossed with ease, encouraging consolidation of school districts.
6. The need for constitutional revision is eliminated.

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[13]Joseph Paul Rovegno, "The Public Authority as an Agency for School Building Construction," (unpublished doctoral dissertation, University of Pittsburgh, 1952).

B. School Bond Elections

Factors affecting successful bond elections have been the subject of many studies since World War II. Lee,[14] in Nebraska, and Nelson,[15] in Arkansas, developed rating scales to predict the outcome of school bond elections. In California, Murphy[16] and Turner[17] examined selected variables and their effect on the outcome of school bond elections.

In Texas, Harper[18] examined the power structures in four elections and the part they played in each. In Massachusetts, Farley[19] examined the power structure in one community and its influence in a school bond vote of the citizens.

In New York State, factors affecting successful bond elections in

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[14]Frank Loren Lee, "A Rating Scale for the Prediction of the Outcome of School Bond Elections in Nebraska," (unpublished doctoral dissertation, University of Nebraska, Teachers College, Omaha, 1964).

[15]Carl Merrell Nelson, Jr., "A Prediction Model for Determining the Outcome of School Bond Elections," (unpublished doctoral dissertation, University of Kansas, Lawrence, 1968).

[16]Edward Virl Murphy, "Selected Variables in the Success of Bond Elections in California School Districts," (unpublished doctoral dissertation, University of Southern California, Los Angeles, 1966).

[17]Pat Edmairne Turner, "Analysis of School Bond Campaigh Techniques and Their Voting Patterns," (unpublished doctoral dissertation, University of California, Los Angeles, 1968).

[18]Joe W. Harper, "A Study of Community Power Structure in Certain School Districts in the State of Texas and Its Influence on Bond Elections," (unpublished doctoral dissertation, North Texas State University, Denton, 1965).

[19]Edward John Farley, "A Suburban Community Power Structure as It Relates to School Bond Elections," (unpublished doctoral dissertation, Boston University School of Education, 1967).

Nassau County were studied by Marshall[20] while Shore[21] studied possible new approaches to financing public schools in the state.

Gott[22] reported on the success or failure of bond campaigns in Kentucky; Herman[23] examined bond issues in Michigan to determine their success or failure; and Mitchell[24] made a similar study of bond elections in Missouri.

Barbour[25] examined the socio-economic influences on bond issues in Iowa. In Michigan, Dykstra[26] studied the effect of the non-public school groups on bond elections. McKenzie[27] studied the planning and

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[20]Thomas Paul Marshall, "An Analysis of School Bond Campaigns in Five Selected Districts," (unpublished doctoral dissertation, George Peabody College for Teachers, Nashville, 1960).

[21]Frederick Shore, "The Nature and Cost of Legal and Fiscal-Advisory Services Utilized in the Marketing of School Bonds by School Districts in New York," (unpublished doctoral dissertation, Columbia University, New York, 1962).

[22]Prentice Lay Gott, "Selected Factors Associated with the Success or Failure of School Bond Issue Campaigns in Kentucky," (unpublished doctoral dissertation, George Peabody College for Teachers, Nashville, 1962).

[23]Jerry John Herman, "A Study of the Relationships Between Certain Selected Factors and the Success or Failure of Bond Issues in Fourth Class School Districts in Michigan," (unpublished doctoral dissertation, University of Michigan, Ann Arbor, 1959).

[24]Holly William Mitchell, "Identification and Evaluation of Factors Affecting School Bond Issues in Missouri Public Schools," (unpublished doctoral dissertation, University of Missouri, Columbia, 1962).

[25]Edwin Lyle Barbour, "The Effects of Socio-Economic Factors on School Bond Elections in Iowa," (unpublished doctoral dissertation, Iowa State University of Science and Technology, Iowa City, 1966).

[26]Sidney Dykstra, "A Study of the Relationship of Non-Public School Enrollment to the Approval of School Millage and Bond Proposals," (unpublished doctoral dissertation, University of Michigan, Ann Arbor, 1964).

[27]Robert M. McKenzie, "Identification and Analysis of Factors Affecting School Bond Elections in Kansas School Districts During 1966-67," (unpublished doctoral dissertation, University of Kansas, Lawrence, 1969).

conducting campaigns in Kansas. In Mississippi, Crider[28] analyzed nineteen factors that influenced the success or failure of bond issues in that state. In Illinois, Tebbutt[29] studied the voting behaviors of various socio-economic groups and the outcomes of school bond elections.

Hicks[30] studied bond sales in Ohio and reports that the political climate can influence the outcome of bond elections. McDaniel[31], in a study of the outcome of bond elections in Georgia, notes the steps to be taken to insure a successful outcome.

Cooper[32] studied the effects, if any, of restrictive voting rules on the success or failure of school bond elections. Crosswait[33] studied the factors which he felt were related to the success or failure of bond issues.

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[28]Russell Joy Crider, "Identification of Factors Which Influence the Passage or Failure of School Bond Issues in Selected Counties of Mississippi," (unpublished doctoral dissertation, University of Southern Mississippi, Hattiesburg, 1967).

[29]Arthur Van Bergen Tebbutt, "Voting Behavior and Selected Communications in a Bond and Rate Referendum for a Suburban School District," (unpublished doctoral dissertation, Northwestern University, Evanston, 1968).

[30]Robert Elden Hicks. "Analysis of the Influence of Certain Fiscal Variables on the Success of Proposed School Tax Levies and Bond Issues for Public School Support in Ohio," (unpublished doctoral dissertation, Ohio State University, Columbus, 1967).

[31]Charles Pope McDaniel, Jr., "A Study of Factors Affecting the Outcome of School Bond Issues in Selected Georgia School Districts," (unpublished doctoral dissertation, University of Georgia, Athens, 1967).

[32]John Robert Cooper, "Institutional Factors Affecting the Outcome of School Bond Referenda," (unpublished doctoral dissertation, University of Virginia, Charlottesville, 1967).

[33]Billy N. Crosswait, "Factors Related to the Success and Failure of Bond Issues in the Independent School Districts of South Dakota," (unpublished doctoral dissertation, University of South Dakota, Vermillion, 1967).

C. Credit Ratings

Gibson[34] compared the rating of New York public school bonds by various credit rating agencies, and he questions the validity of such ratings. Sabo[35] studied the influence that effect changes in the ratings of New Jersey school bonds. He reports that the cost per pupil was the single most important variable since this amount was interpreted by him as a sign of the willingness and the ability of the people of the community to provide financial support for education.

D. Legal Counsel or Fiscal Agents

Byrnes[36] studied the fees of legal counsel in the greater New York City area and suggested that State Departments of Education should conduct a survey of the fees paid to local legal counsels. In Texas, Meyer[37] reviewed the state statutes relating to the procedures employed during the course of school bond sales. He urges that attorneys be paid on the amount of time spent and strongly emphasizes that there is no direct relationship between the amount of time required to market a bond

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[34]James McCosh Gibson, "Public School Bonding in the State of New York in Communities Outside New York City, 1960-1964," (unpublished doctoral dissertation, New York University, 1965).

[35]Joseph Peter Sabo, "An Analysis of Selected Factors Associated With Ratings of New Jersey School Bonds," (unpublished doctoral dissertation, Rutgers, The State University, New Brunswick, 1966).

[36]Frederick J. Byrnes, "Fees of Local Legal Counsels for Services Related to School Bond Proceedings in the New York Metropolitan Area," (unpublished doctoral dissertation, Teachers College, Columbia University, New York, 1955).

[37]Currie Lee Meyer, "The Nature and Cost of Financial Advisory Services Utilized in the Marketing of Texas School Bonds," (unpublished doctoral dissertation, East Texas State University, Commerce, 1966).

and the size of the bond issue. Wolf[38] made a study of surety bonding and its application to the public schools. Miles[39] studied the role of the fiscal agent in the Colorado school districts in planning and conducting school bond elections during 1962-1963.

Interest Rates

In evaluating school bond administrative practices in selected school districts of Pennsylvania, Castetter[40] found, based on a check list he devised, that the higher the efficiency in administering the bond issue, the lower the interest rates. Castetter also reports that the bidders in the large financial centers paid lower interest rates on the average than did local bidders. He concludes that better advisory programs are needed in bonding programs, especially in the smaller school districts.

Stollar,[41] in a study of factors affecting bond issues in Ohio, reports that those administrators whose districts received the lowest rates of interest were found, when questioned, to be more in agreement

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38 Arne B. Wolf, "Surety Bonds and Their Use for Public Schools," (unpublished doctoral dissertation, New York University, New York, 1960).

39 Frank Sterling Miles, "The Role of the Fiscal Agent in the Bonding of Colorado School Districts," (unpublished doctoral dissertation, University of Colorado, Boulder, 1960).

40 William B. Castetter, "The Administration of Bond Issues in Selected Pennsylvania School Districts," (unpublished doctoral dissertation, University of Pennsylvania, Philadelphia, 1948).

41 Dewey H. Stollar, "Selected Factors Affecting Marketability of Ohio School Bonds," (unpublished doctoral dissertation, Ohio State University, Columbus, 1963).

with the responses given by the bond specialists than with the responses given by fellow administrators whose districts had higher rates of interest. Stollar felt this study shows the need for more adequate training of school administrators and for more adequate collection of data at the state level. The study also reveals the need for still closer cooperation between all parties concerned.

Jones,[42] in an appraisal of Oregon school bonding practices, recommends that it would be desirable for school administrators to work more closely with investment bankers and bond buyers if the school authorities are to receive the most favorable interest rates.

Gramann,[43] in a study of the interest costs of selected bond issues in the State of Washington, reports that the Moody's rating given a community had the greatest bearing on the interest rate, followed by such factors as length of term, amount of sale, use of prospectus, callability, use of financial advisors, assistance in preparing the prospectus, and existence of an excess levy.

Morse[44] studied the factors that influence interest rates of public bonds in the State of California and developed guidelines leading to better and more efficient bond programs.

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[42] William C. Jones, "A Critical Appraisal of Public School Bonding Practices in Oregon," (unpublished doctoral dissertation, University of Oregon, Eugene, 1963).

[43] Fred Michael Gramann, "A Review of Net Interest Costs of Selected Bond Issues for Washington Schools," (unpublished doctoral dissertation, University of Washington, Seattle, 1967).

[44] Alton Ray Morse, "Analysis of Problems Involved in the Marketing and Management of School Bonds," (unpublished doctoral dissertation, University of Southern California, Los Angeles, 1968).

Conclusion

Although these studies make many recommendations that local school districts should heed, none considered that some other method of bonding might possibly be more advantageous for all school districts within a state regardless of ratings. This study will seek to demonstrate an alternative that will allow both rich and poor districts to be treated as equals.

CHAPTER IV

PROCEDURES AND ANALYSIS OF DATA

Data for this study were collected from the publication The Bond Buyer and from the United States Government Statistical Center in Washington, D.C. The method of marketing school bonds by a fiscal agent employed or authorized to act in behalf of a local district in Massachusetts was studied, and then this method was compared with eight other methods employed elsewhere in the country. The eight other methods of bonding for school construction that were examined and compared are as follows:

1. Marketing of bonds by the local school district itself (Illinois).
2. Marketing of bonds and the construction of schools by local school building authorities (Kentucky).
3. Marketing of bonds and the construction of schools by state school building authorities (Pennsylvania).
4. Marketing of bonds with repayment guaranteed by special state revenue.
5. Marketing of bonds by the state government. The proceeds of these bonds are loaned to school districts for school construction with the local districts required to make annual repayments on the principal and interest (California).
6. Marketing of bonds by state school building authorities with the service charges being paid annually by legislative

appropriation (Georgia).

7. Marketing of bonds by the state government which has total responsibility for constructing and operating the schools (Hawaii).
8. Marketing of bonds by county governments which have the whole or partial responsibility for school construction. (This method is used by counties in several states.)

Summary of 1967-1968 Bond Sales

An examination of the bond buying practices in the United States during the period July 1, 1967 to June 30, 1968 reveals a total of 1,722 sales of new bonds for public school purposes. Of these, 1,399 totaling $1.82 billion were local school district sales and amounted to 81 percent of the number of bond sales and to 62-1/2 percent of the dollar value of all school bonds sold. Governmental agencies such as state, county, city, town, or regional school districts accounted for 201 sales totaling $719 million. This amount was 11-7/10 percent of the sales and 24-6/10 percent of their dollar value. During this time the public school housing authorities accounted for 122 sales totaling $376 million. This amount represented 7-1/10 percent of the total number of new bond sales and 12-9/10 percent of the dollar value.

This study examines each of eight methods of school bonding employed by school districts, authorities, municipalities, or state or local governmental bodies to discover which ones obtained, on the average, a better interest rate than the Massachusetts municipalities and

regional school districts during the period under consideration.

Marketing of Bonds by a Fiscal Agent (Massachusetts)

Under the provisions of Chapter 44 of the General Laws or Chapter 645 of the Acts of 1948 (School Building Assistance Law) towns, cities, and regional school districts in Massachusetts may borrow money for a period of not more than twenty years for school construction. Under Chapter 44, a town may borrow money for the construction of a school without the approval of a state agency if it obtains a two-thirds vote at a town meeting; a city may vote a bond issue without the approval of a state agency if it obtains a two-thirds vote of the city council.

Two important restrictions, however, are imposed on cities and towns borrowing money under Chapter 44: (1) a city may not borrow more than 2-1/2 percent of its equalized valuation; and (2) a city may borrow up to 5 percent and a town up to 10 percent of its equalized valuation if it is approved by the state's Emergency Finance Board.

An examination of the data in Table 4 reveals that the Massachusetts average net interest rate was 0.25 percent less than the national average.

TABLE 4

SUMMARY OF ALL NEW BOND SALES FOR PUBLIC SCHOOL PURPOSES IN THE FIFTY STATES AND MASSACHUSETTS DURING 1967-1968

States	Number of Sales	Amount of Sales	Average Net Interest
National	1,722	$2,917,489,000.00	4.57
Massachusetts	66	$ 145,842,000.00	4.32

In order to determine whether such an advantage existed in other years, the records for 1960-1971 were examined. The data in Table 5 show that the average net interest rate for Massachusetts municipalities and school districts was consistently below the average when the fifty states were considered together.

Under Chapter 645 (School Building Assistance Law) a city or town may vote to authorize a debt with no limit to the amount which can be authorized. A two-thirds vote, however, is necessary. As a safeguard, the law requires the approval of the State Board of Education and the Emergency Finance Board.

Provisions in some city charters permit voters to approve or reject a bond issue for school construction authorized by the city council. If a city has accepted Section 8A of Chapter 44 of the General Laws, 12,000 or 12 percent of the registered voters, whichever is less, may petition to have the question of upholding a bond issue submitted to the voters. A referendum is held, and the results determine whether a bond issue passes or fails.

TABLE 5

SUMMARY OF ALL NEW BOND SALES FOR PUBLIC SCHOOL PURPOSES IN THE FIFTY STATES AND MASSACHUSETTS DURING 1960-1971

Year	50 States Average Net Interest	Massachusetts Average Net Interest
1970-1971	5.48	4.97
1969-1970	6.39	6.21
1968-1969	4.79	4.75
1967-1968	4.57	4.32
1966-1967	4.01	3.92
1965-1966	3.62	3.44
1964-1965	3.25	3.07
1963-1964	3.25	3.01
1962-1963	3.11	2.83
1961-1962	3.33	3.10
1960-1961	3.52	3.20

In Massachusetts, school bond issues are restricted to no more than twenty years. Municipalities issue what are commonly called serial loans. A part of the principal must be paid back each year, but the principal may be repaid in unequal installments. The law makes one important restriction, however, The first payment of the principal on a twenty-year loan must be equal to at least one-twentieth of the entire loan; moreover, each subsequent payment must be less than the payment in the previous year.

The Sale of Bonds in Massachusetts

In Massachusetts, the treasurer for a municipality or school district engages a bank with a municipal bond department to handle the sale of bonds. The bank chosen for this purpose is commonly known as the certifying or fiscal agent for the city, town, or regional school district involved.

The treasurer, after being notified by the school building committee of the amount required to construct the school project, prepares a notice of sale for the bonds. This notice must contain the following facts:

1. The total amount of the bonds to be issued and the date they are to be sold.
2. The name of the bank certifying and acting as the paying agent for the bonds as the coupons and principal become due.
3. The amount of the principal to mature each year.
4. The name of the law firm providing the legal opinion approving the bond issue.

5. A brief description of the financial standing of the city, town, or regional school district.
6. A statement to the effect that the bonds constitute valid, general obligations of the city, town, or regional school district and that all taxable property therein will be subject to the levy of unlimited ad valorem taxes to pay both the principal and interest on the bonds.
7. The percentage of state aid to be paid annually over the life of the bond issue.

Procedure for the Actual Sale of School Bonds

The treasurer of the bank that has been chosen by the municipality or regional school district to be the fiscal agent sends out invitations to those persons most likely to bid on the bonds and inserts notices of the impending sale in The Bond Buyer and Wall Street Journal as well as in local and regional newspapers. The prospective purchasers of municipal bonds are, for the most part, brokerage houses dealing in municipal bonds and banks dealing in municipal securities.

Bond bids are opened in public and the bid is awarded to the buyer who is willing to purchase the bonds at the lowest rate of interest. In the case of identical bids, the bidder offering the highest premium is awarded the bid. The purchaser of the bonds becomes the owner and pays the full amount of the bonds to the fiscal agent of the municipality or regional school district.[1]

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[1]Clifford V. Jones and Ronald J. Fitzgerald, Planning a School: A Sequential Program (Amherst: Cooperative School Service Center at the University of Massachusetts, 1966), pp. 46-49.

Bond Activity in Massachusetts, 1967-1968

Sixty-six bond sales amounting to $145,842,000.00 and at an average interest rate of 4.32 percent were made in Massachusetts during the period from July 1, 1967 to June 30, 1968. Table 6 is a profile table created to indicate the interest rates that were obtained and the Moody ratings of the districts.

A careful examination of Massachusetts bond sales reveals that on one occasion an Aa-rated community received a better interest rate than an Aaa-rated community, the reason being that the Aa-rated issue was for five years while the Aaa-rated issue was for twenty years. This finding is in keeping with Moody's tenet that "interest rates increase as maturities are lengthened."[2]

Another Moody tenet to keep in mind is the following one: "Bonds although carrying the same ratings are not claimed to be of absolutely equal quality, but they are claimed to be essentially alike in their expected investment performance."[3]

The performances of all other Aa-rated Massachusetts bonds were plotted against A-rated bond issues, and A-rated bonds were also plotted against Baa-rated bonds on a month by month basis. The results show that districts with A ratings never received an interest rate equal to or less than an Aa group on a given day if the length of the bond issue

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[2]Moody's Investors Service, Gauging Bond Quality: How an Investor Appraises Your Community and Bond Issues (New York: Moody's Investment Service, Inc., 1965), p. 6.

[3]Richard A. Barr, "Bonds Build New Schools," American Education (March, 1968), p. 26.

TABLE 6

RATES OF INTEREST AND MOODY RATINGS FOR SIXTY-SIX MASSACHUSETTS SCHOOL DISTRICTS DURING 1967-1968

Rate of Interest	Aaa	Aa	A	Baa	Unrated
3.355-3.455		x			
3.455-3.555	x				
3.555-3.655			x		
3.655-3.755		x			
3.755-3.855		xx			
3.855-3.955		x			
3.955-4.055		xx	xx		
4.055-4.155		xxxxxx	xxxxx		
4.155-4.255		xx	xx	x	
4.255-4.355		xxx	xxxxxx xxxxx	xx	
4.355-4.455			xxxx xxx		xx
4.455-4.555		xx	xxxx xxxx	x	x
4.555-4.655					
4.655-4.755			xx		
Totals	1	20	38	4	3

was for a similar period. It should be noted that as the year 1967-1968 progressed, the interest rates in all categories increased. This indicates the importance of credit ratings and also the need for every municipality and regional school district to keep or improve its rating if possible.

Bonding for School Construction in the Commonwealth of Massachusetts

Because the Commonwealth of Massachusetts itself is not involved in public school construction, a bonding record is not available to compare directly with those of the other forty-nine states. The Commonwealth's bonding activity closest to public school construction is construction for state and community colleges.

In December of 1967, the average net interest rate of Moody-rated bonds for institutions of higher education under public control was 4.64 percent. During this same month the Commonwealth of Massachusetts sold $22 million worth of bonds at an average net interest rate of 4.40 percent. It might be well to point out that this favorable interest rate was received during the month that the bond index had moved up to its highest point since February of 1934. The market was in such a bad state that a bond offer by the State of New York Dormitory Authority set for December of 1967 had to be canceled.[4]

The sale of such magnitude by the Commonwealth in December of 1967 indicates that even when interest rates are high, the state is able to borrow money at a rate less than the national average. The Commonwealth

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[4] Ibid.

might well assume the funding of all public school construction in Massachusetts.

Marketing of Bonds by a Local School District (Illinois)

Illinois was selected as an example of states in which the fiscally independent school districts have complete responsibility for the initiation of school bond issues. A school bond issue must be approved by a majority of the qualified voters who participate in a special election. School bonds up to 5 percent of the assessed valuation of the districts as adjusted by state assessment ratings may be issued for capital outlay. A district's debt is limited to 5 percent of the locally assessed valuation. Property in Illinois is theoretically assessed at 55 percent of fair cash value but, in reality, it is reported that an assessment sales price ratio is 39.3 percent. In Illinois, only serial bonds may be issued, and the maximum time limit is a twenty-year period. The approval of the state is not necessary; however, the maximum permissible interest is 7 percent. The Illinois Building Commission Fund loans interest-free funds to school districts and said loans are repaid at the rate of 6 percent a year. In this study, however, only data on the issuance of local school bonds by school districts were examined. Table 7 reveals that the average net interest rates in Illinois and Massachusetts in the period under major consideration were almost equal.

TABLE 7

COMPARISON OF ALL NEW BOND SALES FOR PUBLIC SCHOOL PURPOSES IN ILLINOIS AND MASSACHUSETTS DURING 1967-1968

State	Number of Sales	Amount of Sales	Average Net Interest
Illinois	116	$112,456,000.00	4.34
Massachusetts	66	$145,842,000.00	4.32

An examination of the data in Table 8 shows that Illinois school districts received a better average net interest rate than Massachusetts school districts in only three out of eleven years--0.02 of one percent to 0.15 of one percent. In the other eight years, Massachusetts school districts received a more favorable rate of interest ranging from 0.02 to 0.42 of one percent with an overall average of 0.165 of one percent in their favor.

The data indicate that the method employed in Illinois would not be more advantageous in Massachusetts than the method presently in operation.

Two aspects of the Illinois bonding procedure can be incorporated advantageously by Massachusetts municipalities. The first is the use of free loans which local school districts repay at the rate of 6 percent a year. As of January, 1969, over $31 million were loaned to approximately 100 Illinois school districts. The second is the ability of the Illinois Building Authority to purchase sites, construct buildings, and provide fixed equipment for local school districts through lease-rental

TABLE 8

SUMMARY OF THE MAJOR BOND SALES FOR PUBLIC SCHOOL PURPOSES IN ILLINOIS AND MASSACHUSETTS DURING 1960-1971

Year	Illinois Average Net Interest	Massachusetts Average Net Interest
1970-1971	5.39	4.97
1969-1970	6.06	6.21
1968-1969	4.86	4.75
1967-1968	4.34	4.32
1966-1967	3.90	3.92
1965-1966	3.64	3.44
1964-1965	3.13	3.07
1963-1964	3.20	3.01
1962-1963	3.02	2.83
1961-1962	3.08	3.10
1960-1961	3.33	3.20

arrangements with the School Building Commission. The funds for this authority are appropriated by the State Legislature, and the local school districts repay the state directly.

Marketing of Bonds by a Local School Building Authority (Kentucky)

The Commonwealth of Kentucky is an example of a state where it is possible to create a private school building corporation for the benefit of a local school district. Local school districts have turned to this method of raising funds for school construction because private corporations are not subject to the state limitations of local school bonding indebtedness.

Under this plan, a private corporation floats a bond issue. The proceeds are used to purchase a site on which the school is built. The corporation then leases the school to the local district and collects the rent which is used to repay the principal and interest on the bonds. When the indebtedness has been retired, the non-profit corporation usually deeds the school building to the local school district.

The Kentucky Department of Education determines a district's financial ability to retire these bonds before giving approval for new construction. A vote of the people is not required for the issuance of these bonds, and private school building corporations are widely used in the Commonwealth of Kentucky. On June 30, 1968, there were $282,452,000 in revenue bonds outstanding while the general obligation bonds outstanding amounted to only $1,242,000.

A study of the interest rates of private school building authorities in 1967-1968 reveals that the interest rate paid by Kentucky private school authorities was nearly 1 percent higher than than paid in Massachusetts. (See Table 9.) It is obvious from this data that it would not be in the best interest of Massachusetts communities and regional school districts to emulate these procedures.

TABLE 9

SUMMARY OF NEW BOND SALES OF SCHOOL AUTHORITIES
IN THE COMMONWEALTHS OF KENTUCKY AND MASSACHUSETTS
DURING 1967-1968

State	Number of Sales	Amount of Sales	Average Net Interest
Kentucky	44	$ 56,935,000.00	5.28
Massachusetts	68	$145,842,000.00	4.32

The data in Table 10 show clearly that over an eleven-year period the average net interest rates obtained by local Kentucky school authorities were much higher than those obtained by Massachusetts municipalities and regional districts. The differences among the average net interest rates ranged from 0.50 to almost 1.50 percent higher for the Kentucky authorities.

An additional 1 percent interest would result in added costs of $105,000 per million dollars over a twenty-year period. Since Massachusetts municipalities and regional school districts in 1967-1968 bonded

TABLE 10

SUMMARY OF BOND SALES OF SCHOOL BUILDING AUTHORITIES IN THE COMMONWEALTHS OF KENTUCKY AND MASSACHUSETTS DURING 1960-1971

Year	Kentucky Average Net Interest	Massachusetts Average Net Interest
1970-1971	6.44	4.97
1969-1970	6.87	6.21
1968-1969	5.54	4.75
1967-1968	5.28	4.32
1966-1967	4.51	3.92
1965-1966	4.10	3.44
1964-1965	3.57	3.07
1963-1964	3.62	3.01
1962-1963	3.57	2.83
1961-1962	3.79	3.10
1960-1961	3.95	3.20

for almost $125 million, the added costs would be approximately $13 million.

The major drawback of the Kentucky private school building corporation program is that its securities are not those of the local government. Therefore, the private building corporation is no stronger than the willingness of the local school districts to continue to make payments. As a result, the bonds have limited marketability and school construction costs are greater when this method is employed.

Marketing of Bonds and the Construction of Schools by State School Building Authorities (Pennsylvania)

In Pennsylvania, the following types of authorities are used for bonding school construction: the Pennsylvania State Public School Building Authority, local independent authorities, and joint school authorities.

The Pennsylvania State Public School Building Authority combines the lease-rental plan of the corporation with state aid payments to the local school district. The corporation pays off the bonds from the proceeds of the lease-rentals collected from the school districts. Although these bonds do not pledge the credit or taxing power of the Commonwealth, they are tied to state aid payments which give them a better rating than those of a private corporation. If a school district should default on its payments, the state is authorized to withhold from the district an equal amount of rental aid and to make such payments directly to the authority.

The State Public School Building Authority closely supervises school districts availing themselves of its services. The Authority imposes strict regulations concerning construction, change orders, and the requirements of competitive bidding.

Strict state control over school construction can be avoided, however, by the use of local or joint school authorities. Construction by local school authorities must meet minimum state safety requirements, but such details as design and square footage are left to local decision. The local authority is also allowed to contract for the sale of bonds rather than to follow the competitive bidding practices required by the Authority.

Joint school authorities are formed by individual school boards wishing to join together to build schools. This plan has motivated school district consolidation in Pennsylvania. The Pennsylvania State Constitution limits the amount of money that can be borrowed by a school district to 7 percent of the assessed valuation of taxable property.

In this study, the bond sales of both state and local school authorities in Pennsylvania will be considered as one. It can be seen from Table 11 that the average net interest rate paid by the Pennsylvania school authorities was more than half of one percent greater than the corresponding interest rate of Massachusetts municipalities during 1967-1968.

TABLE 11

SUMMARY OF ALL NEW BOND SALES OF SCHOOL AUTHORITIES IN PENNSYLVANIA AND MASSACHUSETTS DURING 1967-1968

State	Number of Sales	Amount of Sales	Average Net Interest
Pennsylvania	49	$210,625,000.00	4.96
Massachusetts	66	$142,107,000.00	4.32

Table 12 reveals that even when the Pennsylvania State Public School Building Authority is considered separately, the interest rate is still greater by 1/2 percent than the average net interest rate in Massachusetts.

TABLE 12

SUMMARY OF ALL NEW BOND SALES OF THE PENNSYLVANIA STATE PUBLIC SCHOOL BUILDING AUTHORITY AND MASSACHUSETTS DURING 1967-1968

State	Number of Sales	Amount of Sales	Average Net Interest
Pennsylvania	2	$ 64,450,000.00	4.88
Massachusetts	66	$142,107,000.00	4.32

Barr attributes the higher interest rate on authority and local revenue bonds as opposed to that of local school district general

obligation bonds to the fact that the latter are backed by the full faith and credit of the school district while the former are not. He also felt that the weaker financial condition of the districts that turned to authority financing was also reflected in the higher interest cost.[5]

Table 13 compares new bond sales of Pennsylvania school building authorities with bond sales of Massachusetts municipalities over a period of eleven years. The data reveal the fact that Pennsylvania authorities did not at any time receive a better interest rate than the interest rates received by Massachusetts municipalities and school districts. This indicates that public school housing authorities which have evolved in order to circumvent strict state debt limitations do not offer any apparent financial advantages.

Bonding by All School Authorities

This study was expanded to include all types of school authorities reporting sales of school bonds in the fifty states for 1967-1968. During this period, none of the authorities received a more favorable average net interest rate than the average net interest rate received by Massachusetts municipalities and regional school districts. (See Table 14.)

Table 15 is a longitudinal study of the average net interest rates paid by all school authorities and Massachusetts municipalities and school districts during 1960-1971. In the eleven-year period, none of

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[5]Richard A. Barr, op. cit. (December, 1969-January, 1970), p. 29.

TABLE 13

SUMMARY OF ALL NEW BOND SALES OF SCHOOL BUILDING AUTHORITIES IN PENNSYLVANIA AND MASSACHUSETTS DURING 1960-1971

Year	Pennsylvania	Massachusetts
1970-1971	6.18	4.97
1969-1970	6.75	6.21
1968-1969	5.38	4.75
1967-1968	4.96	4.32
1966-1967	4.05	3.92
1965-1966	3.77	3.44
1964-1965	3.38	3.07
1963-1964	3.49	3.01
1962-1963	3.33	2.83
1961-1962	3.56	3.10
1960-1961	3.88	3.20

TABLE 14

SUMMARY OF ALL SCHOOL AUTHORITY NEW BOND SALES IN FIVE STATES CONTRASTED WITH MASSACHUSETTS DURING 1967-1968

State	Number of Sales	Amount of Sales	Average Net Interest
Georgia	3	$ 27,866,000.00	4.66
Indiana	25	$ 70,920,000.00	4.76
Kentucky	44	$ 56,935,000.00	5.28
Pennsylvania	49	$210,625,000.00	4.96
Virginia	1	$ 10,000,000.00	4.42
Massachusetts	66	$142,107,000.00	4.32

TABLE 15

AN ELEVEN YEAR LONGITUDINAL STUDY OF NET INTEREST RATES PAID BY ALL SCHOOL AUTHORITIES AND MASSACHUSETTS

Year	Authorities Average Net Interest	Massachusetts Average Net Interest
1970-1971	5.96	4.97
1969-1970	6.58	6.21
1968-1969	5.32	4.76
1967-1968	4.94	4.32
1966-1967	4.18	3.92
1965-1966	3.80	3.44
1964-1965	3.42	3.07
1963-1964	3.50	3.01
1962-1963	3.42	2.83
1961-1962	3.55	3.10
1960-1961	3.87	3.20

the authorities received a better average net interest rate than the average net interest rates received by Massachusetts. The authority interest rates ranged from 0.26 of one percent to 0.99 of one percent. This difference, when translated into money, means a savings ranging from $26,000 to more than $50,000 per million dollars for a given twenty-year period.

Marketing of Bonds with Repayment Guaranteed by Special State Revenues (Florida)

Another way to meet local school building needs is by pledging special revenues to help repay school bonds. In 1947, the State of Florida embarked on a comprehensive program of state aid to public education. In 1952, statewide support to local school districts was expanded and the proceeds of the state motor vehicle license tax were pledged to the State Board of Education, which in turn sold school revenue issues on behalf of the counties.

The local school districts may request the State Board of Education to issue bonds on their behalf. The amount of the bonds is paid from the anticipated state payments to the extent that the annual payments of principal and interest equal 75 percent of the district allowance from the proceeds of automobile registration. The district, however, must not have pledged funds for local debts exceeding 25 percent. Upon request, the Florida Department of Education advises a district regarding bond sales. Bonds need not be offered to any state agency for purchase.

In 1969, legislation was passed authorizing district school boards

to enter into lease and lease-purchase contracts with private individuals and corporations. School building plans, however, must be approved by the state.

Table 16 reveals that Massachusetts municipalities and regional school districts received a more favorable rate of interest than that received by Florida districts. The difference was 0.32 of one percent per million dollars.

TABLE 16

SUMMARY OF ALL NEW BOND SALES FOR PUBLIC SCHOOL PURPOSES IN FLORIDA AND MASSACHUSETTS DURING 1967-1968

State	Average Net Interest
Florida	4.64
Massachusetts	4.32

During an eleven-year period, the average net interest rate obtained by Florida districts was consistently more than the average net interest obtained by Massachusetts municipalities and regional school districts. (See Table 17.) One exception was during 1968-1969, when bonds were issued for school purposes at the rate of 4.59 percent. Although this is one of the lowest rates, it should be noted that these bonds are not considered general obligation bonds of the State of Florida and therefore carry a higher rate of interest. Neither are they considered general obligations of the county, so property taxes may not

TABLE 17

SUMMARY OF ALL NEW BOND SALES FOR PUBLIC SCHOOL PURPOSES IN FLORIDA AND MASSACHUSETTS DURING 1960-1971

Year	Florida Average Net Interest	Massachusetts Average Net Interest
1970-1971	5.98	4.97
1969-1970	6.32	6.21
1968-1969	4.59	4.75
1967-1968	4.64	4.32
1966-1967	4.55	3.92
1965-1966	4.04	3.44
1964-1965	3.13	3.07
1963-1964	3.27	3.01
1962-1963	3.17	2.83
1961-1962	3.26	3.10
1960-1961	3.49	3.20

be levied for their support.

Marketing of Bonds by State Governments (California)

There are fourteen states which have some form of school construction loan program. California has been selected for this study because of the unique features that have been incorporated into its program.

The State of California uses its bonding power in loans to local school districts with the following general provisions:

1. The time limit for the loan is thirty years.
2. The interest rate charged the local unit is computed at 1/8 of one percent more than the effective interest rate paid by the state on its school bonds.
3. The interest is charged only the first twenty-five years of the loan.
4. At the end of thirty years, any unpaid portion of the loan and/or interest is canceled except for any amount than has been deferred under special provisions of the law. In these cases the deferred loan balances will be carried for an additional period covering either the full payment of such a deferred loan balance or a period of ten years, whichever occurs first.[6]

According to estimates, more than half of the principal amounts of the loans made to local school districts will be forgiven.

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[6]Chapter 19, Division 3 of the California State Department of Education Code.

In 1968-1969, state funds amounting to $53.8 million were allocated for debt service on the state bond issues which provided the funds for this loan program. Of this total, $41.4 million were expended for school district repayments. The repayment of bonds by the State of California is not dependent upon the repayment of the loans by the school districts. These state bonds constitute a valid and legally binding general obligation of the State of California. Another desirable feature of this School Building Aid Law is the provision that the state will purchase portable classrooms to be leased to local school districts during periods of high enrollment due to seasonal migration of agricultural workers. The only drawback is that the maximum permissible rate of interest is only 5 percent, and as a result, some $95 million of authorized state bond issues remained unsold in early 1970.

In 1967-1968, the California state bond sales were compared with bond sales in Massachusetts. (See Table 18.)

TABLE 18

COMPARISON OF ALL BOND SALES IN CALIFORNIA AND MASSACHUSETTS DURING 1967-1968

State	Number of Sales	Amount of Sales	Average Net Interest
California	2	$110,000,000.00	4.33
Massachusetts	66	$142,107,000.00	4.32

Table 19 reveals a higher rate of interest for California state

TABLE 19

SURVEY OF ALL STATE BOND SALES IN CALIFORNIA AND MASSACHUSETTS DURING 1960-1971

Year	California Average Net Interest	Massachusetts Average Net Interest
1970-1971	5.57	4.97
1969-1970	6.19	6.21
1968-1969	None	4.75
1967-1968	4.33	4.32
1966-1967	N.I.	3.92
1965-1966	3.72	3.44
1964-1965	3.21	3.07
1963-1964	3.12	3.01
1962-1963	2.94	2.83
1961-1962	3.47	3.10
1960-1961	3.71	3.20

government school bonds than for Massachusetts municipal and regional school bonds with one exception: 1970-1971. The rates of interest shown, however, represent only the cost of money to the state. An additional service charge of 1/8 of one percent must be added to the amount that any school district is required to pay. Thus, the cost to California districts exceeds that to Massachusetts districts every year.

As noted previously, Massachusetts state law requires that school bonds be paid off within a twenty-year period. In California, however, the life of school bond payments is thirty years. This extension of ten years adds interest of over $300,000 for each million dollars of school bonds to the total cost.

Marketing of Bonds Whose Service Charges are Paid Annually by Legislative Appropriation (Georgia)

School construction in Georgia is funded by local bond issues, state grants, and the Georgia Education Authority. In 1951, the State of Georgia created the Georgia State School Building Authority (renamed the Georgia Education Authority in 1967). This authority has the power to:

1. Acquire, construct, and operate self-liquidating projects embracing school buildings, classrooms, laboratories, and the like for any institution under the State Board of Education.
2. Execute leases of such facilities with various County Boards of Education, City Boards of Education, or independent

districts.

3. Issue revenue bonds of the authority payable from revenue rents and earnings or other funds of the authority.
4. Pay costs of such projects and authorize collection and pledging of revenues and other charges in paying such bonds and in maintaining costs of projects. The service charges on the bonds issued by the Authority are appropriated annually by the State Legislature if needed.

Although the Georgia Education Authority has an Aa Moody rating, it was unable to obtain a more favorable interest rate than the rate in Massachusetts during 1967-1968. (See Table 20.)

TABLE 20

SUMMARY OF ALL NEW BOND SALES FOR PUBLIC SCHOOL PURPOSES BY THE GEORGIA EDUCATION AUTHORITY AND MASSACHUSETTS DURING 1967-1968

State	Number of Sales	Amount of Sales	Average Net Interest
Georgia	3	$ 27,866,000.00	4.66
Massachusetts	66	$142,107,000.00	4.32

During this same period, four school districts in the State of Georgia issued school bonds. The results which appear in Table 21 indicate that Massachusetts municipalities still received a better interest rate, but the disparity between the rates was much smaller.

TABLE 21

SUMMARY OF ALL NEW BOND SALES FOR PUBLIC SCHOOL PURPOSES BY LOCAL GEORGIA SCHOOL DISTRICTS AND MASSACHUSETTS DURING 1967-1968

State	Number of Sales	Amount of Sales	Average Net Interest
Georgia	4	$ 13,900,000.00	4.48
Massachusetts	66	$142,107,000.00	4.32

Upon examining the figures for the eleven-year period, the following summary was made: in only two of the seven years that the Georgia Education Authority issued bonds was the Georgia interest rate more favorable than the Massachusetts rate. (See Table 22.) It would be well to point out, however, that in those two years Georgia had only one sale each year. Massachusetts, on the other hand, had 72 sales one year and 57 the other year.

Marketing of Bonds by State Governments Having Total Responsibility for the Construction of Schools (Hawaii)

In 1843, the Hawaiian government took over the support of the public schools. Since that time, local government property revenues have not been used for public schools. Hawaii operates as a one-unit school system. All funds are received from state appropriations supplemented by any federal funds for which the state qualifies. The primary sources

TABLE 22

SUMMARY OF ALL NEW BOND SALES FOR PUBLIC SCHOOL PURPOSES BY THE GEORGIA EDUCATION AUTHORITY AND MASSACHUSETTS DURING THE PERIOD 1960-1971

Year	Average Net Interest of Georgia Authorities	Average Net Interest of Massachusetts Municipalities
1970-1971	4.91	4.97
1969-1970	6.16	6.21
1968-1969	5.02	4.75
1967-1968	4.48	4.32
1966-1967	3.94	3.92
1965-1966	None	3.44
1964-1965	3.25	3.07
1963-1964	None	3.01
1962-1963	None	2.83
1961-1962	3.35	3.10
1960-1961	None	3.20

for general state funds are the State General Excise Tax and the State Net Income Tax. Property taxes are not general state fund income. They go to the various counties as their primary source of income.

The annual budget for the Department of Education is prepared by school, district, and state administrators in a form agreed upon by the State Department of Budget and Finance. Program budgeting is used at the school, district, and state levels. The annual operating and capital improvement budgets are reviewed by the Board of Education and the governor's staff and presented to the legislature as part of the governor's executive budget.

Although the Department of Public Works is responsible for school construction, buildings are constructed in accordance with educational specifications prepared by the State Department of Education. Local school districts must apply to the Department of Public Instruction, which in turn approves projects on the basis of special need. The amount of any grant is based upon the estimated cost of the project. These funds are then expended under the Department of Public Works.

The operating budget for the Department of Education for 1966-1967 included the following amounts:

State funds	$80,320,690.00
Federal funds	$14,060,206.00
Special funds	$ 7,857,762.00

These funds were used to operate elementary and secondary education, adult education, special schools such as the schools for the deaf and the blind, vocational education, and public libraries. The state appropriations for 1966-1967 were made on a "lump sum" basis to the

Department of Education.

During the 1966 legislative session, $34,136,000 was appropriated for a capital improvement program. The amount appropriated from the general state funds was $4,815,000 and the amount from bonds was $29,321,000. General state funds may be used in lieu of bonds whenever the state financial picture warrants it. In 1968, the legislature appropriated the following amounts for capital outlay:

General state funds	$10,000,000.00
State bond issue	$18,300,000.00
Federal funds	$ 2,000,000.00

It is difficult to obtain accurate figures on bonding for school purposes in Hawaii, because all bonding is lumped together under the heading of Public Improvement Fund. The United States Office of Education has on several occasions, however, been able to isolate a bond issue for school purposes.[6]

Table 23 shows that Massachusetts municipalities in each case received a better rate of interest. It would be well to remember, however, that Hawaii has an A Moody rating while many Massachusetts municipalities, as well as the Commonwealth of Massachusetts, have an Aa rating.

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[6]W. Monfort Barr, op. cit., p. 291.

TABLE 23

AVERAGE NET INTEREST RATES IN HAWAII
AND MASSACHUSETTS DURING 1960-1971

Year	Hawaii Average Net Interest	Massachusetts Average Net Interest
1967-1968	4.40	4.32
1963-1964	3.22	3.01
1962-1963	2.93	2.83
1961-1962	3.24	3.10

The study was then expanded to include all other states issuing school bonds for school construction purposes in 1967-1968. (See Table 24.) Three of the five states issuing school bonds had a better interest rate than the rates received by Massachusetts municipalities or regional school districts.

Because three states received a better rate of interest than did Massachusetts in 1967-1968, the previous year was reviewed to see if a similar advantage existed. The states that issued bonds in 1966-1967 are not unilaterally the same as those in 1967-1968.

Table 25 reveals that in 1966-1967 the five states that issued bonds for school purposes received better interest rates than the rates received by Massachusetts municipalities and regional school districts.

TABLE 24

SUMMARY OF ALL BOND SALES BY STATE GOVERNMENTS
AND MASSACHUSETTS FOR SCHOOL CONSTRUCTION PURPOSES
DURING 1967-1968

States	Amount of Sales	Average Net Interest
California	$110,000,000.00	4.33
Maryland	21,000,000.00	4.22
Mississippi	6,000,000.00	4.50
South Carolina	13,000,000.00	3.73
Washington	16,500,000.00	4.10
Massachusetts	142,107,000.00	4.32

TABLE 25

AVERAGE NET INTEREST RATES OF FIVE STATES AND MASSACHUSETTS ISSUING BONDS FOR SCHOOL CONSTRUCTION PURPOSES DURING 1966-1967

State	Number of Sales	Amount of Sales	Average Net Interest
Delaware	1	$ 9,171,000.00	3.43
Maryland	3	$41,320,000.00	3.66
Michigan	1	$26,000,000.00	3.04
North Carolina	1	$40,000,000.00	3.42
Washington	2	$29,000,000.00	3.81
Massachusetts	61	$84,662,000.00	3.92

Out of the nine states issuing bonds for public school construction during 1965-1966, five received more favorable interest rates than the rates received by Massachusetts. (See Table 26.)

Table 27 reveals that during 1964-1965 four of the ten states issuing bonds for school construction received more favorable interest rates than the rates received by Massachusetts.

During the year 1963-1964, twelve states reported selling bonds for school construction purposes. Table 28 shows that only four of those twelve states received more favorable interest rates than the rates received by Massachusetts.

During the period 1962-1963, eleven states reported issuing bonds for public school construction purposes. Table 29 shows that, of the eleven, only four states received more favorable rates of interest than the rates received by Massachusetts.

During the period 1961-1962, eleven states issued bonds for school construction purposes. Table 30 shows that only five of those states listed received more favorable interest rates than the rates received by eighty Massachusetts municipalities and regional school districts during this same period.

In 1960-1961, eleven states reported issuing bonds for school construction purposes. Of these eleven, five reported receiving more favorable net interest rates than those rates received by Massachusetts municipalities and regional school districts. (See Table 31.)

In 1970-1971, only two of nine states received better interest rates than the rates received by seventy-two Massachusetts municipalities and regional school districts. (See Table 32.)

TABLE 26

AVERAGE NET INTEREST RATES OF NINE STATES AND MASSACHUSETTS ISSUING BONDS FOR SCHOOL CONSTRUCTION PURPOSES DURING 1965-1966

State	Number of Sales	Amount of Sales	Average Net Interest
California	1	$100,000,000.00	3.72
Delaware	1	$ 3,535,000.00	3.26
Florida	1	$ 11,405,000.00	3.96
Hawaii	2	$ 8,732,000.00	3.69
Maryland	2	$ 36,570,000.00	3.18
North Carolina	2	$ 60,000,000.00	3.28
Rhode Island	1	$ 1,000,000.00	3.50
South Carolina	1	$ 5,000,000.00	3.40
Washington	1	$ 15,000,000.00	3.34
Massachusetts	64	$ 75,532,000.00	3.44

TABLE 27

AVERAGE NET INTEREST RATES OF TEN STATES AND MASSACHUSETTS ISSUING BONDS FOR SCHOOL CONSTRUCTION PURPOSES DURING 1964-1965

State	Number of Sales	Amount of Sales	Average Net Interest
California	3	$200,000,000.00	3.21
Delaware	2	$ 15,152,000.00	2.97
Florida	3	$ 30,000,000.00	3.29
Hawaii	2	$ 7,142,000.00	3.17
Maryland	2	$ 15,220,000.00	2.92
Mississippi	1	$ 6,000,000.00	3.24
Oregon	1	$ 1,390,000.00	3.15
South Carolina	1	$ 6,000,000.00	2.82
Vermont	1	$ 4,235,000.00	2.96
Washington	1	$ 15,000,000.00	3.11
Massachusetts	62	$ 68,474,000.00	3.07

TABLE 28

AVERAGE NET INTEREST RATES OF TWELVE STATES AND MASSACHUSETTS ISSUING BONDS FOR PUBLIC SCHOOL CONSTRUCTION DURING 1963-1964

State	Number of Sales	Amount of Sales	Average Net Interest
California	3	$120,000,000.00	3.12
Delaware	1	$ 7,419,000.00	2.88
Florida	10	$ 6,070,000.00	3.25
Hawaii	1	$ 7,348,000.00	3.22
Maryland	8	$ 29,780,000.00	2.91
Minnesota	2	$ 19,800,000.00	3.06
Mississippi	17	$ 6,100,000.00	3.21
Rhode Island	2	$ 1,400,000.00	3.06
South Carolina	1	$ 5,000,000.00	2.86
Vermont	1	$ 2,000,000.00	2.82
Virginia	1	$ 10,000,000.00	3.13
Washington	1	$ 25,750,000.00	3.09
Massachusetts	81	$ 78,841,000.00	3.01

TABLE 29

AVERAGE NET INTEREST RATES OF ELEVEN STATES AND MASSACHUSETTS ISSUING BONDS FOR SCHOOL CONSTRUCTION PURPOSES DURING 1962-1963

State	Number of Sales	Amount of Sales	Average Net Interest
Alaska	2	$ 3,300,000.00	3.29
California	1	$50,000,000.00	2.94
Delaware	2	$13,400,000.00	2.75
Florida	23	$10,815,000.00	3.28
Hawaii	1	$ 1,532,000.00	2.93
Maine	1	$ 1,500,000.00	2.25
Maryland	1	$13,385,000.00	2.59
Rhode Island	1	$ 700,000.00	2.85
South Carolina	1	$ 5,000,000.00	2.46
Virginia	1	$15,000,000.00	2.93
Washington	1	$15,000,000.00	3.05
Massachusetts	63	$50,725,000.00	2.83

TABLE 30

AVERAGE NET INTEREST RATES OF ELEVEN STATES AND MASSACHUSETTS ISSUING BONDS FOR SCHOOL CONSTRUCTION PURPOSES DURING 1961-1962

State	Number of Sales	Amount of Sales	Average Net Interest
California	2	$200,000,000.00	3.47
Delaware	1	$ 4,275,000.00	2.84
Florida	3	$ 9,015,000.00	3.40
Hawaii	1	$ 460,000.00	3.24
Maryland	2	$ 25,636,000.00	2.81
Mississippi	1	$ 10,000,000.00	3.20
North Carolina	1	$ 8,891,000.00	2.98
Rhode Island	1	$ 1,700,000.00	3.04
South Carolina	2	$ 10,000,000.00	2.97
Vermont	1	@ 2,000,000.00	2.95
Washington	1	$ 10,000,000.00	3.21
Massachusetts	80	$ 77,215,000.00	3.10

TABLE 31

AVERAGE NET INTEREST RATES OF ELEVEN STATES AND MASSACHUSETTS ISSUING BONDS FOR SCHOOL CONSTRUCTION PURPOSES DURING 1960-1961

State	Number of Sales	Amount of Sales	Average Net Interest
Alabama	1	$ 30,000,000.00	3.36
California	2	$120,000,000.00	3.71
Delaware	3	$ 5,769,000.00	3.06
Florida	29	$ 16,620,000.00	3.77
Maryland	1	$ 1,393,000.00	2.72
Mississippi	1	$ 12,000,000.00	3.34
North Carolina	1	$ 5,000,000.00	2.86
Rhode Island	1	$ 1,000,000.00	3.29
South Carolina	1	$ 5,000,000.00	2.77
Tennessee	2	$ 5,600,000.00	3.15
Washington	1	$ 34,000,000.00	3.59
Massachusetts	80	$ 64,619,000.00	3.20

TABLE 32

AVERAGE NET INTEREST RATES OF NINE STATES AND MASSACHUSETTS ISSUING BONDS FOR SCHOOL CONSTRUCTION PURPOSES DURING 1970-1971

State	Number of Sales	Amount of Sales	Average Net Interest
California	1	$ 70,000,000.00	5.15
Connecticut	2	$ 69,000,000.00	5.39
Louisiana	1	$ 8,000,000.00	5.73
Michigan	1	$ 57,500,000.00	4.75
Mississippi	1	$ 6,000,000.00	5.65
New Hampshire	1	$ 1,300,000.00	5.36
Ohio	1	$ 75,000,000.00	5.17
South Carolina	1	$ 14,000,000.00	4.34
Washington	2	$ 29,500,000.00	6.35
Massachusetts	72	$201,237,000.00	4.97

TABLE 33

AVERAGE NET INTEREST RATES OF THREE STATES AND MASSACHUSETTS ISSUING BONDS FOR SCHOOL CONSTRUCTION PURPOSES DURING 1968-1969

State	Number of Sales	Amount of Sales	Average Net Interest
Florida	1	$ 3,725,000.00	4.50
Louisiana	1	$ 2,000,000.00	4.04
South Carolina	1	$10,500,000.00	3.84
Massachusetts	45	$88,310,000.00	4.76

Table 34 reveals that during 1969-1970 two of four states received better net interest rates than the rates received by Massachusetts municipalities and regional school districts.

TABLE 34

AVERAGE NET INTEREST RATES OF FOUR STATES AND MASSACHUSETTS ISSUING BONDS FOR SCHOOL CONSTRUCTION PURPOSES DURING 1969-1970

State	Number of Sales	Amount of Sales	Average Net Interest
California	9	$ 60,000,000.00	6.27
Connecticut	2	$100,000,000.00	6.15
Minnesota	2	$ 13,000,000.00	6.39
Washington	1	$ 15,000,000.00	5.99
Massachusetts	57	$117,376,000.00	6.21

Over a span of eleven years, thirteen different states, on forty-five different occasions, received more favorable net interest rates than the rates received by Massachusetts municipalities and regional school districts. (See Table 35.)

The data in Table 36 reveal that in eight of the eleven years under study, Massachusetts municipalities and regional school districts received better rates of interest on the average than the rates received by twenty-one other states when considered collectively.

A more detailed examination was then undertaken to see which states, if any, were continually able to borrow money at a rate superior to that of Massachusetts municipalities and regional school districts in this eleven-year period.

The data in Table 37 indicate that certain states have the ability to obtain more favorable interest rates than rates received by Massachusetts municipalities and regional school districts. This fact suggests that further studies should be made to discover (1) the procedures those states use to obtain the lower rates and (2) the advantages and disadvantages to Massachusetts if the state takes over school bonding and school construction.

Bonding for School Construction by County Governments

A search of the data disclosed that of the eight states under primary study, none had school bonds issued by county governments during 1967-1968. An examination of the fifty states, however, revealed that

TABLE 35

STATES RECEIVING A MORE FAVORABLE RATE OF INTEREST THAN MASSACHUSETTS DURING THE ELEVEN YEAR PERIOD 1960-1971

State	70-71	69-70	68-69	67-68	66-67	65-66	64-65	63-64	62-63	61-62	60-61
Maryland				x	x	x	x	x	x	x	x
Delaware					x	x	x	x	x	x	x
South Carolina	x		x	x			x	x	x	x	x
North Carolina					x	x				x	x
Vermont							x	x		x	
Washington		x		x	x	x					
Maine									x		
Michigan				x							
Rhode Island										x	
Tennessee											x
Florida			x								
Louisiana			x								
Connecticut		x									

TABLE 36

NET AVERAGE INTEREST RATES OF THE TWENTY-ONE STATES AND MASSACHUSETTS ISSUING BONDS FOR PUBLIC SCHOOL CONSTRUCTION DURING 1960-1971

Year	Average Net Interest for Twenty-One States	Average Net Interest for Massachusetts
1970-1971	5.30	4.97
1969-1970	6.22	6.21
1968-1969	4.02	4.76
1967-1968	4.25	4.32
1966-1967	3.50	3.92
1965-1966	3.50	3.44
1964-1965	3.18	3.07
1963-1964	3.08	3.01
1962-1963	2.90	2.83
1961-1962	3.34	3.10
1960-1961	3.56	3.20

TABLE 37

THE AMOUNT OF DIFFERENCE OF SUPERIOR INTEREST RATES RECEIVED BY THIRTEEN DIFFERENT STATES DURING 1960-1971

State	70-71	69-70	68-69	67-68	66-67	65-66	64-65	63-64	62-63	61-62	60-61
Maryland				.10	.26	.26	.15	.10	.24	.29	.48
Delaware					.49	.18	.10	.13	.08	.26	.14
South Carolina	.63		.92	.59			.25	.15	.37	.13	.43
North Carolina					.50	.16				.12	.34
Vermont							.09	.19		.15	
Washington		.22		.22	.11	.10					
Maine									.58		
Michigan					.88						
Rhode Island										.06	
Tennessee											.05
Florida			.26								
Louisiana			.72								
Connecticut		.06									

county governments in seven states had issued bonds for school construction purposes in 1967-1968. (See Table 38.)

An examination of the above data reveals that Massachusetts municipalities and regional school districts received a slightly better average net interest rate than the others combined--4.32 as opposed to 4.43. In three of the seven states, however, counties reported receiving more favorable rates than those received by Massachusetts municipalities and regional school districts.

The study of counties issuing bonds for school construction purposes was expanded for an eleven-year period. (See Table 39.) In nine of the eleven years, Massachusetts municipalities and regional school districts received more favorable rates of interest than those received by county governments. In the quest for better bond interest rates for Massachusetts municipalities and regional school districts, even an advantage limited to just two years should warrant further scrutiny and study.

TABLE 38

COMPARISON OF STATES IN WHICH COUNTY GOVERNMENTS ISSUED SCHOOL BONDS WITH MASSACHUSETTS MUNICIPALITIES AND REGIONAL SCHOOL DISTRICTS DURING 1967-1968

State	Number of Sales	Amount of Sales	Average Net Interest
Maryland	10	$ 62,500,000.00	4.40
New Jersey	3	$ 4,825,000.00	4.19
North Carolina	7	$ 16,660,000.00	4.27
Ohio	1	$ 670,000.00	4.21
Tennessee	23	$ 29,476,000.00	4.71
Virginia	15	$ 52,835,000.00	4.39
West Virginia	1	$ 3,075,000.00	4.48
Massachusetts	66	$142,107,000.00	4.32

TABLE 39

NET AVERAGE RATES OF INTEREST OF COUNTY GOVERNMENTS OF THE FIFTY STATES AND MASSACHUSETTS ISSUING SCHOOL BONDS DURING 1960-1971

Year	Average Net Interest - County Governments	Average Net Interest - Massachusetts
1970-1971	5.62	4.97
1969-1970	6.43	6.21
1968-1969	4.64	4.76
1967-1968	4.43	4.32
1966-1967	3.83	3.92
1965-1966	3.63	3.44
1964-1965	3.18	3.07
1963-1964	3.18	3.01
1962-1963	2.98	2.87
1961-1962	3.26	3.10
1960-1961	3.43	3.20

CHAPTER V

CONCLUSIONS

In summary, the following statements can be made concerning the bonding process for school construction:

1. In Massachusetts, municipal and regional school districts turn the bonding process over to a regional banking interest. This method was examined and compared with eight other methods employed elsewhere in the nation. The data reveals that Massachusetts municipalities turning the bonding process over to regional banking interests receive:

   a. About the same average net interest rate as those local school districts in the State of Illinois that handled the entire bonding process themselves.

   b. A more favorable average net interest rate than those municipalities and school districts in the State of Kentucky that set up local school authorities for the purposes of selling school bonds and constructing schools.

   c. A more favorable average net interest rate than those state and local school authorities in the Commonwealth of Pennsylvania that were created for the purposes of selling bonds and constructing schools.

   d. A more favorable average net interest rate than those school districts and municipalities in the State of Florida where repayment of bond issues was backed by proceeds from state motor vehicle license revenue.

   e. A more favorable average net interest rate than those school

districts and municipalities in the State of California that make use of state loans for school construction purposes. These loans are backed by the full faith and credit of the State of California.

f. A more favorable average net interest rate than the state school building authority in the State of Georgia where the bond issues covering costs of school construction loans are backed by an annual state legislative appropriation.

g. A more favorable average net interest rate than the State of Hawaii which exercises complete control over school construction and school financing.

h. A less favorable average net interest rate than those state governments using their full faith and credit for school construction loans. (This became apparent when the scope of this study was extended beyond its original limits.)

i. A less favorable average net interest rate on certain county bond issues.

2. The Commonwealth of Massachusetts is able to borrow money for construction purposes at a rate less than the national average.

3. The practice of permitting the use of callable bonds in Massachusetts School bonding can save large sums of money for the taxpayers of Massachusetts.

4. It was evident in the process of conducting this study that there was no central source of adequate financial information available from any state agency. This study supports the findings of Benson, the MACE Study of School Construction and the National Education Study of 1970,

which call for the creation of a state fiscal agency to aid local municipalities and regional school districts in bonding and other financial matters.

New Plan for Bonding

It is evident from the examination of the data that the present practice of allowing Massachusetts municipalities and regional school districts to turn their bonding process over to regional banking institutions is not always the most economical way of obtaining the lowest possible interest rate. The implementation of the following plan will do much to bring about a lower interest rate as well as to lower school construction costs. The features of this new plan are that:

1. The Commonwealth of Massachusetts sell bonds for school construction purposes backed by the full faith and credit of the Commonwealth.

2. The Commonwealth of Massachusetts place all public school construction under the joint control of the Massachusetts Department of Public Works and the Massachusetts Department of Education.

3. The Massachusetts State Legislature enact legislation permitting the use of callable bonds for school construction purposes by the Commonwealth and its political subdivisions.

4. A study be undertaken to seek ways and means of correcting existing inequities in Chapter 645 of the General Laws of Massachusetts as amended in 1971. Those inequities are as follows:

a. The equal flat grant treatment of all municipalities and

regional school districts regardless of their ability or willingness to pay school construction costs.

b. The inequitable treatment of sixty-five school districts that do not receive an added 15 percent in school construction aid as they do not qualify as being unemployment impacted areas.

c. The inequitable treatment of school districts with regard to State assumption of local interest costs regardless of the interest rates municipalities and school districts must pay.

5. A study be made of the feasibility of creating a Bureau of Financial Information in either the Department of Corporation and Finance, the Department of Public Works, or the Department of Education. This bureau would assist local school districts and municipalities in school construction and financial matters.

Rationale

The rationale for advocating the pledging of the Commonwealth's credit is based on the research in this study indicating that certain state governments on several occasions received a better average net interest rate for school construction. It should be noted, too, that only five municipalities or regional school districts have a better credit rating than the Commonwealth, thus, the vast majority of the school districts cannot borrow money at a better rate than the State.

The MACE report of school construction recommends the creation of a corporation backed by the full faith and credit of the State to be used for school construction. A more direct alternative, however, is for the

Massachusetts Department of Public Works and the Massachusetts Department of Education to handle this function jointly in a fashion similar to that which has been in operation in the State of Hawaii for some time.

A secondary benefit from the take-over of school construction by the Commonwealth is the possibility of streamlining and reorganizing school districts in Massachusetts. At the present time there are 240 school districts in Massachusetts with fewer taan 2,000 students. One hundred seventy-four school districts have fewer than 1,000 pupils. Forty districts have from 1,000 to 1,500 pupils and 26 districts have from 1,501 to 2,000 students. This reorganization of school districts would reduce the number of school districts in Massachusetts from 240 to somewhere in the neighborhood of 150 school districts.

Under this proposed plan, the Department of Education will receive requests from local school districts for construction of new school facilities and will determine the need for such construction as well as the number of educational spaces required. Once the decision to build is made, the construction will proceed under the direction of the Department of Public Works. Upon its completion, the new school will be turned over to the local school district to be operated. Thus, local control will be preserved.

The plan can be patterned on the present process used by the State for the construction of bridges and roads under the supervision of the Department of Public Works. A plan such as this will make possible the use of the latest techniques in construction and purchasing. As a result, sizable sums of money can be saved as indicated in the MACE report. School district construction will be determined by the State's

overall needs and not on local political considerations.

Weiss's study best summarizes the need for the correction of the inequity that presently exists in Chapter 645 of the General Laws. He points out that if a state is to guarantee a certain basic level of education for all school children and to minimize differences in local tax rates required for its support, then the allocation formula for state aid must reflect differences in relative needs and fiscal capacity at a local level.

The value of the callable feature of school bonds has already been demonstrated by its successful use in the State of Pennsylvania where Grieder has reported savings in excess of nine million dollars by the exercise of this option. If savings of this magnitude are possible, then it should be available as an option at the state and local levels.

The need of a state agency to assist local school districts has been cited in Benson's study, the MACE report, and the National Education Study of 1970. The actual placement and duties of this new bureau might well be the result of a study of the New York and Rhode Island bureaus already in operation.

Some form of state take-over of school construction funding is in the best interests of education, a study should be made of the following alternatives:

1. That the State assume all construction costs.

2. That the State loan money to local school districts with the local school district repaying the principal and interest.

3. That the State loan local school districts the money for school construction with the State paying all the interest charges.

4. That a State corporation be created to construct public schools based on the MACE report recommendation.

In the event that the recommendations of this study are carried out by General Court action, the taxpayers of Massachusetts will be able to finance new school construction much more economically. More important, however, is the fact that the children and youth of the Commonwealth will be provided with the safe, modern schools that they deserve.

BIBLIOGRAPHY

A. BOOKS

Alexander, Uhlman S. Special Legislation Affecting Public Schools. New York: Teachers College, Columbia University, 1939.

Benson, Charles S. Are School Debt Finance Costs Too High? Cambridge: New England School Development Council, 1962.

Cubberley, Ellwood P. History of Education. Cambridge: Riverside Press, 1920.

_____. School Funds and Their Apportionment. New York: Teachers College, Columbia University, 1905.

Dexter, Edwin Grant. A History of Education in the United States. New York: The MacMillan Company, 1904.

Essex, Don L. Bonding Versus Pay-As-You-Go in the Financing of School Buildings. New York: Teachers College, Columbia University, 1931.

Fowlkes, John Guy. School Bonds. Milwaukee: Bruce Publishing Company, 1924.

Garber, Lee O., ed. Law and the School Business Manager. Danville, Illinois: The Interstate Printers and Publishers, Inc., 1957.

Halsey, Henry R. Borrowing Money for the Public Schools. New York: Teachers College, Columbia University, 1929.

Matzen, John Mathission. State Constitutional Provisions for Education. New York: Teachers College, Columbia University, 1931.

Mort, Paul R. State Support for Public Schools. New York: Teachers College, Columbia University, 1926.

Smith, James H. Legal Limitations on Bonds and Taxation for Public School Buildings. New York: Teachers College, Columbia University, 1930.

Stollar, Dewey H. Managing School Indebtedness. Danville, Illinois: The Interstate Printers and Publishers, Inc., 1967.

Strayer, George D. and Haig, Robert M. The Financing of Education in the State of New York. New York: The MacMillan Company, 1923.

Updegraff, Harlan. Rural School Survey of New York State. Ithaca: Joint Committee on Rural Schools, 1922.

B. PUBLICATIONS OF THE GOVERNMENT, LEARNED SOCIETIES AND OTHER ORGANIZATIONS

Collins, George J. and Stormer, William L. Condition of Public Schools, 1964-1965. Washington: Government Printing Office, 1965.

_____. State Programs for Public School Support. Miscellaneous Bulletin No. 52. Washington: Government Printing Office, 1965.

National Citizens Commission for the Public Schools. How Do We Pay for Our Schools? Bulletin. New York: National Citizens Commission for the Public Schools, 1954.

National Education Association. Financial Status of the Public Schools. Washington: The Association, 1968.

The Commonwealth of Massachusetts. Report of the Special Commission Established to Make an Investigation and Study Relative to Improving and Extending Educational Facilities in the Commonwealth. Boston: Wright and Potter Printing Company, Legislative Printers, 1965.

Massachusetts State Board of Education. Minutes. November 21, 1967.

Massachusetts Department of Education. Staffing Massachusetts Schools. Boston: State Department of Education, 1968.

_____. Toward Kindergarten Education for All Massachusetts Children. Boston: State Department of Education, 1967.

Campbell, Aldrich and Nulty. A Systems Approach for Massachusetts Schools. Boston: Massachusetts Advisory Council on Education, 1971.

Weiss, Steven J. Existing Disparities in Public School Finance and Proposals for Reform. Boston: Federal Reserve Bank of Boston, 1967.

C. PERIODICALS

Grieder, Calvin. "These Techniques Can Cut School Debt Interest Costs." Nation School, May, 1968.

D. LEGAL AND LEGISLATIVE PUBLICATIONS AND MATERIALS

Hawaii Constitution, Article IX.

Massachusetts Constitution, Part the Second, Chapter 5. Section II.

Massachusetts General Laws. Chapter 71, Section 46 K.

Massachusetts General Laws. Chapter 645 as amended 1971.

Massachusetts General Laws. Chapter 1010 of the Acts of 1971.

E. UNPUBLISHED MATERIALS

Barbour, Edwin L. "The Effects of Socio-Economic Factors on School Bond Elections in Iowa."
Unpublished doctoral dissertation, Iowa State University of Science and Technology, Iowa City, 1966.

Byrnes, Frederick J. "Fees of Local Legal Counsels for Services Related to School Bond Proceedings in the New York Metropolitan Area."
Unpublished doctoral dissertation, Teachers College, Columbia University, New York, 1955.

Castetter, William B. "The Administration of Bond Issues in Selected Pennsylvania School Districts."
Unpublished doctoral dissertation, University of Pennsylvania, Philadelphia, 1948.

Cooper, John R. "Institutional Factors Affecting the Outcome of School Bond Referenda."
Unpublished doctoral dissertation, University of Virginia, Charlottesville, 1967.

Copeland, Richard S., Jr. "Public School Indebtedness in Florida."
Unpublished doctoral dissertation, University of Florida, Gainesville, 1952.

Crider, Russell J. "Identification of Factors which Influence the Passage or Failure of School Bond Issues in Selected Counties of Mississippi."
Unpublished doctoral dissertation, University of Southern Mississippi, Hattiesburg, 1967.

Crosswait, Billy N. "Factors Related to the Success and Failure of Bond Issues in the Independent School Districts of South Dakota."
Unpublished doctoral dissertation, University of South Dakota, Vermillion, 1967.

Dykstra, Sidney. "A Study of the Relationship of Non-Public School Enrollment to the Approval of School Millage and Bond Proposals."
Unpublished doctoral dissertation, The University of Michigan, Ann Arbor, 1964.

Farley, Edward J. "A Suburban Community Power Structure as It Relates to School Bond Elections."
Unpublished doctoral dissertation, Boston University School of Education, Boston, 1967.

Gibson, James M. "Public School Bonding in the State of New York in Communities Outside New York City, 1960-1964."
Unpublished doctoral dissertation, New York University, New York, 1965.

Gott, Prentice L. "Selected Factors Associated with the Success or Failure of School Bond Issue Campaigns in Kentucky."
Unpublished doctoral dissertation, George Peabody College for Teachers, Nashville, 1962.

Gramann, Fred M. "A Review of Net Interest Costs of Selected Bond Issues for Washington Schools."
Unpublished doctoral dissertation, University of Washington, Seattle, 1967.

Harper, Joe W. "A Study of Community Power Structure in Certain School Districts in the State of Texas and Its Influence on Bond Elections."
Unpublished doctoral dissertation, North Texas State University, Denton, Texas, 1965.

Herman, Jerry J. "A Study of the Relationship between Certain Selected Factors and the Success or Failure of Bond Issues in Fourth Class School Districts in Michigan."
Unpublished doctoral dissertation, University of Michigan, Ann Arbor, 1959.

Hicks, Robert E. "Analysis of the Influence of Certain Fiscal Variables on the Success of Proposed School Tax Levies and Bond Issues for Public School Support in Ohio."
Unpublished doctoral dissertation, Ohio State University, Columbus, 1967.

Jones, William C. "A Critical Appraisal of Public School Bonding Practices in Oregon."
Unpublished doctoral dissertation, University of Oregon, Eugene, 1963.

Lee, Frank L. "A Rating Scale for the Prediction of the Outcome of School Bond Elections in Nebraska."
Unpublished doctoral dissertation, University of Nebraska, Teachers College, Omaha, 1964.

Marshall, Thomas P. "An Analysis of School Bond Campaigns in Five Selected Districts."
Unpublished doctoral dissertation, George Peabody College for Teachers, Nashville, 1960.

McDaniel, Charles P., Jr. "A Study of Factors Affecting the Outcome of School Bond Issues in Selected Georgia School Districts." Unpublished doctoral dissertation, University of Georgia, Athens, 1967.

McKenzie, Robert M. "Identification and Analysis of Factors Affecting School Bond Elections in Kansas School Districts During 1966-67." Unpublished doctoral dissertation, University of Kansas, Lawrence, 1969.

Meyer, Currie L. "The Nature and Cost of Financial-Advisory Services Utilized in the Marketing of Texas School Bonds." Unpublished doctoral dissertation, East Texas State University, Commerce, Texas, 1966.

Miles, Frank S. "The Role of the Fiscal Agent in the Bonding of Colorado School Districts." Unpublished doctoral dissertation, University of Colorado, Boulder, 1960.

Mitchell, Holly W. "Identification and Evaluation of Factors Affecting School Bond Issues in Missouri Public Schools." Unpublished doctoral dissertation, University of Missouri, Columbia, 1962.

Morse, Alton R. "Analysis of Problems Involved in the Marketing and Management of School Bonds." Unpublished doctoral dissertation, University of Southern California, Los Angeles, 1968.

Murphy, Edward V. "Selected Variables in the Success of Bond Elections in California School Districts." Unpublished doctoral dissertation, University of Southern California, Los Angeles, 1966.

Nelson, Carl M., Jr. "A Prediction Model for Determining the Outcome of School Bond Elections." Unpublished doctoral dissertation, University of Kansas, Lawrence, 1968.

Rovegno, Joseph Paul. "The Public Authority as an Agency for School Building Construction." Unpublished doctoral dissertation, University of Pittsburgh, 1952.

Sabo, Joseph P. "An Analysis of Selected Factors Associated with the Ratings of New Jersey School Bonds." Unpublished doctoral dissertation, Rutgers - The State University, New Brunswick, 1966.

Shore, Frederick. "The Nature and Cost of Legal and Fiscal Advisory Services Utilized in the Marketing of School Bonds by School Districts in New York State."
Unpublished doctoral dissertation, Columbia University, New York, 1962.

Stollar, Dewey H. "Selected Factors Affecting Marketability of Ohio School Bonds."
Unpublished doctoral dissertation, Ohio State University, Columbus, 1963.

Tebbutt, Arthur V. "Voting Behavior and Selected Communications in a Bond and Rate Referendum for a Suburban School District."
Unpublished doctoral dissertation, Northwestern University, Evanston, 1968.

Turner, Pat E. "Analysis of School Bond Campaign Techniques and Their Voting Patterns."
Unpublished doctoral dissertation, University of California, Los Angeles, 1968.

Wolf, Arno B. "Surety Bonds and Their Use for Public Schools."
Unpublished doctoral dissertation, New York University, New York, 1960.

APPENDIX - A

A CHECK LIST FOR BONDING PROCEDURES FOR MASSACHUSETTS MUNICIPALITIES AND REGIONAL SCHOOL DISTRICTS

CHECK LIST FOR BONDING PROCEDURES

Circle the response indicating your action to date. Those items that have the "No" circled should be given immediate attention.

I. LEGAL SERVICES

1.	A competent banking institution is employed by the municipality or regional school district after the vote of the people or the municipal government.	Yes	No
2.	The banking firm chosen employes the services of competent municipal bond counsel, with a national reputation prior to the vote of the people or municipal government.	Yes	No
3.	The bond counsel is directed to approve every legal document (resolution, ballot, election notice, bond form) affecting the legality of the proposed debt.	Yes	No
4.	If the resolution and other papers have been drawn by the school district attorney or other local municipal attorney, they are approved by the bond counsel before adoption and use.	Yes	No
5.	The banking firm chosen delegates an official to be responsible for furnishing the bond counsel with all necessary information and papers at the time required.	Yes	No
6.	The municipal bond counsel is consulted as to every step in the issuance of bonds of any type.	Yes	No
7.	The banking institution drafts the bond sale legal advertisement for insertion in the papers which has been approved by bond counsel.	Yes	No
8.	The banking institution places the legal ad in the Daily Bond Buyer and other selected papers.	Yes	No

18. Assist in filing financial information for rating organizations. Yes No

19. Assist in obtaining best credit rating warranted for district. Yes No

20. Assist in ascertaining the most favorable responsible bidder. Yes No

Other financial considerations are:

21. Bonds are dated within 30 days of the date of the sale. Yes No

22. Bonds are issued in denominations of $5,000. Yes No

III. SELECTED CREDIT RATINGS

The district or municipality applies to either of the following for a credit rating prior to bond sale:

23. Moody's Yes No

24. Standard and Poor's (only if selling bonds frequently) Yes No

IV. PROSPECTUS

(Statement of Essential Facts)

The following are gathered and reported in the prospectus to be distributed without request to financial institutions and others interested in municipal bond issues, in addition to potential bidders:

25. The size of the bond issue Yes No

26. The purpose of the bond issue Yes No

27. The nature of the obligation, described completely Yes No

28.	The amount and purpose of outstanding indebtedness of the school district or municipality	Yes	No
29.	Maturity schedules of existing and proposed bond issues, showing principal and interest payments	Yes	No
30.	The dollar amount and its per cent of debt limit uncommitted after the sale of this issue	Yes	No
31.	The projected capital needs of school district or municipality	Yes	No
32.	The assessed valuation of property taxable for all purposes for the last five years	Yes	No
33.	The full valuation of property taxable for municipal and school purposes for the last five years	Yes	No
34.	The school and local tax rate on true valuation for the last five years	Yes	No
35.	The delinquent tax trends	Yes	No
36.	The amount, if any, of local non-property tax	Yes	No
37.	The amount and percent of state building aid estimated for the project, to be received by the school district or municipality as obtained from the Associate Commissioner of Education for the Division of School Facilities and Related Services	Yes	No
38	The amount and type of federal aid received by the school district or municipality	Yes	No
39	Whether the school district or municipality has ever defaulted, delayed payment, or refinanced in anticipation of financial difficulties	Yes	No
40.	Whether any overlapping government unit has ever defaulted, delayed payment, or refinanced in anticipation of financial difficulties	Yes	No

41. The diversification and stability of local industry — Yes No

42. The transportation facilities available — Yes No

43. The population for the past three decades and its future estimate — Yes No

44. Whether residents work in or outside of the community — Yes No

45. Whether district citizens are homeowners or renters — Yes No

46. The most recent financial statement dated and signed by the official vouching for its accuracy — Yes No

47. A statement to the effect that there is no litigation pending or threatened concerning the validity of the bond issue — Yes No

V. PUBLICITY AND NOTICE OF BOND SALE

48. The bond sale is publicized in several of the following: — Yes No

a. The Daily Bond Buyer and The Weekly Bond Buyer
b. Wall Street Journal
c. New York Times
d. The Financial Reporter
e. Leading State Newspapers

49. Advertisement of the sale is completed at least five days prior to the sale date but less than thirty days — Yes No

50 The advertisement contains a statement to the effect that further information concerning the proposed bond issue is available in prospectus form — Yes No

The sale notice contains the following information:

51.	Complete legal name of borrower	Yes	No
52.	Complete title of issue	Yes	No
53.	Date, hour, and place bids will be opened	Yes	No
54.	Date of bonds, maturity dates, and optional dates if callable prior to maturity	Yes	No
55.	When and where interest and principal are payable	Yes	No
56.	Bond denominations	Yes	No
57.	Option or options of holder as to registration at district expense	Yes	No
58.	Basis of bidding, including use of possible premiums offered	Yes	No
59.	Basis of award	Yes	No
60.	Bids for less than par value are acceptable	Yes	No
61.	Nature and amount of certified check required with the bid	Yes	No
62.	Name and address of person to whom bids are to be mailed or delivered	Yes	No
63.	Statement that the proceedings have been under the supervision of bond counsel and the name of the attorney(s)	Yes	No

VI. ACTUAL BOND SALE

64.	The bond issue is sold through sealed bids at public sale in which investors are invited to participate in the bidding	Yes	No
65.	The bids are opened promptly at the time specified	Yes	No
66.	Allowance is made to allow sealed bid adjustment right up to actual bid opening time	Yes	No
67.	Effort is made to select the month, week, and day for the sale when school or municipal bond sales will be light	Yes	No
68.	Every effort should be made to hold the bond sale at a time other than the day before or after a holiday	Yes	No
69.	Selected payment location is in a city with a federal reserve bank or branch or which is otherwise regarded as a major financial center	Yes	No

APPENDIX - B

MOODY'S RATINGS OF MASSACHUSETTS MINICIPALITIES AND REGIONAL SCHOOL DISTRICTS

Key to Moody's Bond Ratings

Aaa - Bonds which are rated Aaa are judged to be of the best quality. They carry the smallest degree of investment risk and are generally referred to as "gilt edge." Interest payments are protected by a large or by an exceptionally stable margin and principal is secure. While the various protective elements are likely to change, such changes as can be visualized are most unlikely to impair the fundamentally strong position of such issues.

Aa - Bonds which are rated Aa are judged to be of high quality by all standards. Together with the Aa group they comprise what are generally known as high grade bonds. They are rated lower than the best bonds because margins of protection may not be as large as Aaa securities or fluctuation of protective elements may be of greater amplitude or there may be other elements present which make the long term risks appear somewhat larger than in Aaa securities.

A - Bonds which are rated A possess many favorable investment attributes and are to be considered as higher medium grade obligations. Factors giving security to principal and interest are considered adequate but elements may be present which suggest a susceptibility to impairment sometime in the future.

Baa - Bonds which are rated Baa are considered as lower medium grade obligations, i.e., they are neigher highly protected nor poorly secured. Interest payments and principal security appear adequate for the present but certain protective elements may be lacking or may be characteristically unreliable over any great length of time. Such bonds lack outstanding investment characteristics and in fact have speculative characteristics as well.

Ba - Bonds which are rated Ba are judged to have speculative elements; Their future cannot be considered as well assured. Often the protection of interest and principal payments may be very moderate and thereby not well safeguarded during both good and bad times over the future. Uncertainty of position characterizes bonds in this class.

B - Bonds which are rated B generally lack characteristics of the desirable investment. Assurance of interest and principal payments or of mainten of other terms of the contract over any long period of time may be sma

Caa - Bonds which are rated Caa are of poor standing. Such issues may be in default or there may be present elements of danger with respect to principal or interest.

Ca - Bonds which are rated Ca represent obligations which are speculative in a high degree. Such issues are often in default or have other marked shortcomings.

C - Bonds which are rated C are the lowest rated class of bonds and issues so rated can be regarded as having extremely poor prospects of ever attaining any real investment standing.

Con (...) - Lease rental obligation wherein rents begin when facilities are completed but insurance coverage minimizes construction risks. Parenthetical rating denotes probable credit stature to be attained upon completion of construction.

Note: Unless otherwise noted, municipal ratings are for "general obligations" which are defined as validly issued and legally binding evidences of indebtedness secured by the full faith, credit and taxing powers of the issues.

APPENDIX - C

MASSACHUSETTS LEGISLATIVE APPROPRIATION AND EXPENDITURE FOR SCHOOL CONSTRUCTION -- 1950 - 1972

Appendix C

Massachusetts Legislative Appropriation and Expenditure for School Construction 1950-1972

Fiscal Year	State Appropriation	School Building Expenditure
1950	$ 600,000.00	$ None
1951	1,000,000.00	1,151,215.57
1952	1,400,000.00	1,161,094.81
1953	1,900,000.00	1,813,365.09
1954	5,200,000.00	3,748,379.43
1955	3,000,000.00	5,225,945.10
1956	6,000,000.00	6,000,000.00
1957	9,250,000.00	8,874,585.85
1958	10,400,000.00	9,470,894.32
1959	9,400,000.00	8,865,705.89
1960	11,000,000.00	12,261,701.46
1961	13,125,000.00	13,701,683.79
1962	16,800,000.00	16,193,690.26
1963	15,700,000.00	16,045,837.97
1964	17,650,000.00	17,885,914.37
1965	20,500,000.00	20,482,220.02
1966	23,425,000.00	22,117,976.46
1967	24,500,000.00	24,598,177.65
1968	27,800,000.00	29,050,209.43
1969	30,000,000.00	29,940,300.98
1970	33,000,000.00	32,782,831.86
1971	48,000,000.00	35,236,401.09
1972	43,250,000.00	13,999,332.57 *

* Expenditure to date (9/10/71)

This data was furnished by Mr. William Curley, Head Administrative Assistant, Bureau of School Building Assistance, Massachusetts Department of Education. September 16, 1971.

APPENDIX - D

OPERATION, MAINTENANCE AND DEBT RETIREMENT SERVICES OF MASSACHUSETTS SCHOOL DISTRICTS -- 1967 - 1968

City Code	City, Town or Regional School District	4000 Operation and Maintenance	8000 Debt Retirement and Services
		4.	13.
1	Abington	167,638	319,270
2	Acton	79,499	102,528
3	Acushnet	50,056	67,931
4	Adams	102,082	51,638
5	Agawam	238,498	326,268
6	Alford	-	-
7	Amesbury	116,395	-
8	Amherst	52,673	30,420
9	Andover	226,217	309,375
10	Arlington	664,969	303,070
11	Ashburnham	20,396	-
12	Ashby	26,301	37,500
13	Ashfield	17,432	2,198
14	Ashland	146,715	261,590
15	Athol	75,516	14,231
16	Attleboro	383,694	386,613
17	Auburn	180,998	200,968
18	Avon	78,955	157,387
19	Ayer	160,486	300,631
20	Barnstable	276,187	387,760
21	Barre	44,361	16,775
22	Becket	10,207	-
23	Bedford	232,699	595,000
24	Belchertown	73,567	88,255
25	Bellingham	89,888	-
26	Belmont	393,697	339,900
27	Berkley	14,724	30,850
28	Berlin	11,104	9,998
29	Bernardston	11,228	12,520
30	Beverly	430,930	794,457
31	Billerica	330,496	467,900
32	Blackstone	36,336	82,640
33	Blandford	10,435	7,377
34	Bolton	14,677	9,440
35	Boston	6,675,077	-
36	Bourne	292,524	199,182
37	Boxborough	6,614	-
38	Boxford	26,608	33,077
39	Boylston	18,668	24,750
40	Braintree	512,512	609,758
41	Brewster	11,957	6,630

City Code	City, Town or Regional School District	4000 Operation and Maintenance	8000 Debt Retirement and Services
		4.	13.
42	Bridgewater	68,095	48,937
43	Brimfield	12,395	-
44	Brockton	550,069	919,563
45	Brookfield	10,724	-
46	Brookline	592,213	247,750
47	Buckland	7,229	-
48	Burlington	318,175	480,222
49	Cambridge	727,732	626,165
50	Canton	232,266	465,808
51	Carlisle	30,055	42,450
52	Carver	26,813	14,073
53	Charlemont	6,921	-
54	Charlton	45,067	-
55	Chatham	90,976	135,040
56	Chelmsford	296,921	562,882
57	Chelsea	164,896	32,600
58	Cheshire	21,235	46,430
59	Chester	14,200	2,000
60	Chesterfield	5,949	-
61	Chicopee	581,853	-
62	Chilmark	1,715	-
63	Clarksburg	9,016	6,840
64	Clinton	94,628	133,695
65	Cohasset	110,115	157,246
66	Colrain	8,851	10,700
67	Concord	179,888	362,900
68	Conway	7,966	-
69	Cummington	7,590	6,720
70	Dalton	69,932	51,206
71	Danvers	11,264	360,297
72	Dartmouth	154,786	302,252
73	Dedham	379,333	348,538
74	Deerfield	24,437	11,200
75	Dennis	52,615	51,106
76	Dighton	36,877	28,190
77	Douglas	36,254	17,405
78	Dover	37,269	38,890
79	Dracut	157,666	203,100
80	Dudley	49,741	96,018
81	Dunstable	11,545	25,568

City Code	City, Town or Regional School District	4000 Operation and Maintenance	8000 Debt Retirement and Services
82	Duxbury	92,832	107,228
83	East Bridgewater	92,476	150,725
84	East Brookfield	11,876	-
85	Eastham	8,802	7,140
86	Easthampton	115,719	113,093
87	East Longmeadow	187,185	420,210
88	Easton	174,901	238,983
89	Edgartown	26,516	30,071
90	Egremont	-	-
91	Erving	18,864	-
92	Essex	21,089	54,598
93	Everett	686,160	223,750
94	Fairhaven	183,160	279,883
95	Fall River	740,754	108,681
96	Falmouth	201,745	260,530
9	Fitchburg	463,311	145,925
98	Florida	7,766	5,113
99	Foxborough	182,675	298,272
100	Framingham	876,574	1,271,515
101	Franklin	172,565	258,767
102	Freetown	15,750	43,030
103	Gardner	145,493	97,205
104	Gay Head	1,046	-
105	Georgetown	63,046	72,725
106	Gill	9,904	12,800
107	Gloucester	297,192	164,836
108	Goshen	5,896	-
109	Gosnold	518	-
110	Grafton	137,659	181,234
111	Granby	83,075	185,806
112	Granville	14,706	11,154
113	Great Barrington	67,523	17,295
114	Greenfield	280,856	207,078
115	Groton	78,869	81,844
116	Groveland	36,189	75,565
117	Hadley	50,611	30,735
118	Halifax	19,566	51,270
119	Hamilton	67,787	79,404

City Code	City, Town or Regional School District	4000 Operation and Maintenance	8000 Debt Retirement and Services
		4.	13.
120	Hampden	25,966	26,190
121	Hancock	4,110	7,188
122	Hanover	102,326	236,771
123	Hanson	46,277	29,705
124	Hardwick	29,227	-
125	Harvard	47,853	73,620
126	Harwich	98,270	187,900
127	Hatfield	30,493	30,875
128	Haverhill	438,989	894,784
129	Hawley	-	-
130	Heath	2,506	-
131	Hingham	304,660	488,245
132	Hinsdale	14,596	-
133	Holbrook	144,362	209,535
134	Holden	95,771	120,000
135	Holland	6,340	-
136	Holliston	118,534	246,980
137	Holyoke	291,740	704,795
138	Hopedale	62,864	115,645
139	Hopkinton	88,996	-
140	Hubbardston	11,680	11,200
141	Hudson	117,043	206,660
142	Hull	131,723	212,030
143	Huntington	11,071	2,075
144	Ipswich	124,166	257,383
145	Kingston	37,620	18,500
146	Lakeville	18,848	46,060
147	Lancaster	27,427	29,062
148	Lanesborough	18,749	39,026
149	Lawrence	419,325	217,116
150	Lee	68,855	104,000
151	Leicester	100,113	103,300
152	Lenox	53,211	122,765
153	Leominster	251,480	467,986
154	Leverett	10,576	1,744
155	Lexington	512,065	-
156	Leyden	2,364	1,695
157	Lincoln	108,622	155,418
158	Littleton	94,149	130,920
159	Longmeadow	289,378	524,347
160	Lowell	916,435	604,986

City Code	City, Town or Regional School District	4000 Operation and Maintenance	8000 Debt Retirement and Services
161	Ludlow	195,519	225,145
162	Lunenburg	94,330	155,666
163	Lynn	1,181,919	-
164	Lynnfield	183,900	397,645
165	Malden	409,267	415,450
166	Manchester	69,118	20,877
167	Mansfield	125,650	162,097
168	Marblehead	265,337	257,078
169	Marion	22,841	-
170	Marlborough	202,990	422,320
171	Marshfield	196,106	476,771
172	Mashpee	15,017	9,876
173	Mattapoisett	26,656	62,870
174	Maynard	121,717	139,830
175	Medfield	101,707	348,513
176	Medford	727,497	202,090
177	Medway	73,196	105,000
178	Melrose	380,528	272,895
179	Mendon	18,743	7,710
180	Merrimac	15,534	5,045
181	Methuen	246,614	218,910
182	Middleborough	112,293	60,600
183	Middlefield	4,151	7,040
184	Middleton	32,462	63,500
185	Milford	123,175	-
186	Millbury	96,182	135,120
187	Millis	75,396	-
188	Millville	7,549	3,893
189	Milton	283,907	251,325
190	Monroe	217	-
191	Monson	46,069	-
192	Montague	88,670	58,770
193	Monterey	-	-
194	Montgomery	-	-
195	Mount Washington	10	-
196	Nahant	44,320	62,405
197	Nantucket	47,878	-
198	Natick	498,167	769,975
199	Needham	526,250	564,273
200	New Ashford	1,006	1,040
201	New Bedford	736,896	340,608

City Code	City, Town or Regional School District	4000 Operation and Maintenance	8000 Debt Retirement and Services
		4.	13.
202	New Braintree	3,720	-
203	Newbury	37,958	27,600
204	Newburyport	170,165	123,805
205	New Marlborough	-	-
206	New Salem	11,382	6,318
207	Newton	1,349,843	1,134,464
208	Norfolk	24,727	49,639
209	North Adams	167,122	164,660
210	Northampton	257,512	161,002
211	North Andover	122,201	223,370
212	North Attleborough	166,094	-
213	Northborough	83,247	176,327
214	Northbridge	112,171	54,180
215	North Brookfield	28,741	-
216	Northfield	17,896	-
217	North Reading	171,745	97,140
128	Norton	80,258	118,582
219	Norwell	87,555	159,236
220	Norwood	345,574	236,440
221	Oak Bluffs	14,556	16,950
222	Oakham	1,981	-
223	Orange	42,371	-
224	Orleans	17,022	38,996
225	Otis	5,553	3,270
226	Oxford	82,652	82,149
227	Palmer	101,087	-
228	Paxton	30,044	98,909
229	Peabody	498,186	1,219,542
230	Pelham	5,002	-
231	Pembroke	40,324	63,676
232	Pepperell	28,835	-
233	Peru	4,363	5,040
234	Petersham	11,591	-
235	Phillipston	4,323	2,147
236	Pittsfield	657,839	497,380
237	Plainfield	2,022	-
238	Plainville	27,584	-
239	Plymouth	119,955	32,541
240	Plympton	8,274	5,920
241	Princeton	12,679	5,083

City Code	City, Town or Regional School District	4000 Operation and Maintenance	8000 Debt Retirement and Services
		4.	13.
242	Provincetown	55,174	66,754
243	Quincy	1,162,565	560,330
244	Randolph	333,523	506,704
245	Raynham	65,939	136,540
246	Reading	270,270	350,940
247	Rehoboth	36,385	38,103
248	Revere	450,932	-
249	Richmond	10,181	-
250	Rochester	9,083	12,695
251	Rockland	199,299	242,128
252	Rockport	53,716	76,570
253	Rowe	13,010	43,688
254	Rowley	27,312	62,994
255	Royalston	8,072	-
256	Russell	13,062	28,400
257	Rutland	27,634	72,400
258	Salem	431,797	65,937
259	Salisbury	38,272	34,225
260	Sandisfield	4,223	2,158
261	Sandwich	49,621	120,205
262	Saugus	269,603	476,008
263	Savoy	2,159	-
264	Scituate	211,779	446,876
265	Seekonk	113,045	291,558
266	Sharon	185,974	365,775
267	Sheffield	-	-
268	Shelburne	23,154	-
269	Sherborn	37,533	40,385
270	Shirley	25,471	30,500
271	Shrewsbury	11,228	365,590
272	Shutesbury	3,748	-
272	Somerset	163,286	412,835
274	Somerville	19,046	200,230
275	Southampton	28,162	47,344
276	Southborough	42,572	92,420
277	Southbridge	144,974	91,500
278	South Hadley	174,282	250,694
279	Southwick	83,956	159,438
280	Spencer	72,523	-
281	Springfield	1,796,240	1,140,003

City Code	City, Town or Regional School District	4000 Operation and Maintenance	8000 Debt Retirement and Services
		4.	13.
282	Sterling	35,779	-
283	Stockbridge	25,104	5,800
284	Stoneham	228,333	170,644
285	Stoughton	270,732	570,066
286	Stow	38,186	8,940
287	Sturbridge	25,797	41,778
288	Sudbury	171,765	341,493
289	Sunderland	7,157	-
290	Sutton	45,901	40,530
291	Swampscott	266,286	239,768
292	Swansea	129,869	134,921
293	Taunton	253,675	180,890
294	Templeton	33,801	2,180
295	Tewksbury	271,737	330,599
296	Tisbury	23,809	-
297	Tolland	1,616	-
298	Topsfield	42,685	62,454
299	Townsend	28,212	6,512
300	Truro	9,441	-
301	Tyngsborough	46,978	33,125
302	Tyringham	1,304	-
303	Upton	17,355	-
304	Uxbridge	66,508	56,000
305	Wakefield	283,297	419,116
306	Wales	7,357	-
307	Walpole	193,171	402,223
308	Waltham	707,207	592,144
309	Ware	55,353	61,470
310	Wareham	105,821	205,961
311	Warren	21,936	-
312	Warwick	3,817	1,500
313	Washington	4,359	4,624
314	Watertown	335,311	341,812
315	Wayland	255,176	350,814
316	Webster	92,569	113,120
317	Wellesley	446,701	401,878
318	Wellfleet	14,100	-
319	Wendell	3,451	-
320	Wenham	33,831	35,700
321	Westborough	103,847	198,995
322	West Boylston	126,702	161,475
323	West Bridgewater	77,460	135,616

City Code	City, Town or Regional School District	4000 Operation and Maintenance	8000 Debt Retirement and Services
		4.	13.
324	West Brookfield	16,641	-
325	Westfield	423,770	414,909
326	Westford	126,013	210,955
327	Westhampton	3,410	2,100
328	Westminster	34,149	28,750
329	West Newbury	16,515	-
330	Weston	215,141	380,848
331	Westport	93,134	64,005
332	West Springfield	373,381	538,828
333	West Stockbridge	10,730	9,000
334	West Tisbury	1,978	-
335	Westwood	222,648	307,003
336	Weymouth	667,685	876,215
337	Whately	5,932	-
338	Whitman	118,704	18,687
339	Wilbraham	91,312	144,444
340	Williamsburg	38,738	-
341	Williamstown	62,031	16,350
342	Wilmington	33,936	484,694
343	Winchendon	97,241	102,610
344	Winchester	279,945	311,135
345	Windsor	3,598	-
346	Winthrop	198,579	260,805
347	Woburn	492,715	946,094
348	Worcester	2,091,300	1,263,995
349	Worthington	6,177	-
350	Wrentham	54,628	31,712
351	Yarmouth	96,523	98,701
401	Beverly Trade School	25,963	
403	Lynn Independent Ind Shoe	23,651	
405	New Bedford Trade School	165,863	
408	Worcester Boys Trade High	183,681	
600	Acton-Boxborough	44,321	300,613
605	Amherst-Pelham	112,567	202,348
610	Ashburnham-Westminster	60,171	125,770
615	Athol-Royalston	86,290	137,015
620	Berlin-Boylston	40,465	118,970
625	Bridgewater-Raynham	75,086	186,450
630	Buckland-Shelburne	25,854	64,213
635	Central Berkshire	58,849	171,800
640	Concord-Carlisle	128,510	284,540

City Code	City, Town or Regional School District	4000 Operation and Maintenance	8000 Debt Retirement and Services
		4.	13.
645	Dennis-Yarmouth	66,894	159,530
650	Deighton-Rehoboth	61,917	174,780
655	Dover-Sherborn	45,485	103,950
660	Eastham-Orleans-Wellfleet	48,261	114,565
665	Freetown-Lakeville	56,053	134,215
670	Frontier	42,640	6
672	Gateway	30,736	68,400
675	Hamilton-Wenham	48,830	163,395
680	Hampden-Wilbraham	77,184	230,573
685	Hawlemont	11,374	18,506
690	King Philip	83,496	214,164
695	Lincoln-Sudbury	95,608	338,098
700	Marthas Vineyard	39,574	76,863
705	Masconomet	99,721	305,325
710	Mendon-Upton	34,579	93,575
715	Mount Greylock	63,877	162,320
717	Mohawk Regional	-	-
720	Narragansett	42,243	139,672
725	Nashoba	43,290	126,605
730	Northborough-Southborough	54,824	168,253
735	North Middlesex	60,837	147,275
740	Old Rochester	59,483	186,260
745	Pentucket	57,472	176,902
750	Pioneer Valley	36,589	-
751	Plymouth-Carver	83,498	194,645
753	Quabbin Regional	166	35,939
755	Ralph C. Mahar	55,158	186,000
760	Silver Lake	86,477	154,915
765	Southern Berkshire	82,863	55,439
767	Spencer-E Brookfield Reg	5,080	160,800
770	Tantasqua	106,613	168,180
775	Wachusett	104,849	268,535
780	Whitman-Hanson	74,896	141,504

APPENDIX - E

CHAPTER 645 OF THE GENERAL LAWS OF MASSACHUSETTS

AS AMENDED DECEMBER 15, 1971

THE COMMONWEALTH OF MASSACHUSETTS
Department of Education
SCHOOL BUILDING ASSISTANCE BUREAU
182 Tremont Street, Boston, Massachusetts 02111

CHAPTER 645 OF THE ACTS OF 1948

(Including amendments by Chapter 637, approved August 2, 1949; 741, August 23, 1949; 490, May 29, 1950; 508, June 5, 1950; 528, June 12, 1950; 447, June 28, 1951; 389, May 31, 1952; 413, June 6, 1952; 470, June 11, 1953; 329, April 20, 1954; 346, April 27, 1954; 322, April 26, 1957; 358, May 13, 1957; 703, September 4, 1957; 356, June 4, 1958; 591, September 14, 1959; 377, April 14, 1961; 471, May 17, 1961; 467, June 10, 1963; 562, July 23, 1963; 471, June 4, 1964; 707, July 19, 1968; 754, July 25, 1968; 904, September 3, 1969; 793, August 26, 1970 and 871, Sections 5 and 7, September 1, 1970; 140, April 1, 1971; 280, May 13, 1971; and 1010, November 9, 1971.)

AN ACT TO ENCOURAGE THE ESTABLISHMENT OF REGIONAL AND CONSOLIDATED PUBLIC SCHOOLS AND TO PROVIDE FINANCIAL ASSISTANCE TO CITIES AND TOWNS IN THE CONSTRUCTION OF SCHOOL BUILDINGS.

Whereas, The deferred operation of this act would tend to defeat its purpose, which is to permit immediately the establishment of certain public schools and to provide financial assistance to cities and towns in the establishment thereof, therefore it is hereby declared to be an emergency law necessary for the immediate preservation of the public convenience.

SECTION 1. To promote the planning and construction of school buildings and the establishment of consolidated and regional schools, in order to insure safe and adequate plant facilities for the public schools, and to assist towns in meeting the cost thereof, there is hereby established in the department of education but not subject to its control, a temporary commission, to be known as the school building assistance commission.*

SECTION 2. Said commission shall consist of the commissioner of education, ex officio, and six other members, residents of the commonwealth, who shall serve for the effective period of this act. Four of the said members shall be appointed by the governor, with the advice and consent of the council, one of whom shall be designated, from time to time, as chairman by the governor. The remaining two members shall be appointed by the board of education. The action of a majority of the commission shall constitute action by the commission; and, whenever any action is required to be in writing, such writing shall be sufficient when signed by a majority of the members. Each member of the commission shall receive his expenses actually and necessarily incurred by him in the performance of his duties. The commission shall be provided with suitable offices in the city of Boston.

SECTION 3. The commission shall, subject to appropriation, employ an administrator who shall be the executive officer of the commission and, subject to its supervision and control, shall administer the duties imposed upon the commission. The commission may, with the advice of the administrator, subject to appropriation, employ such assistants, experts, clerks and other employees as it may deem necessary to carry out the provisions of this chapter. Said administrator and other employees of the commission shall not be subject to the provisions of chapter thirty-one of the General Laws.

SECTION 4. The powers and duties of the commission shall be, generally, to encourage and foster the establishment and building of consolidated and regional or union public schools in and among the cities and towns of the commonwealth, to conduct surveys and studies relative thereto, and to administer the provisions of this act relative to grants to cities and towns for the planning and construction of school buildings. The commission is hereby specifically authorized to make contracts for surveys or other technical

*Chapter 572 of the Acts of 1965 abolished the commission and assigned its powers, duties and liabilities to the board of education. (see page 14 of these sheets)

services within the scope of its duties, to provide legal, architectural or other technical advice and assistance to cities and towns or to joint committees thereof in the planning and establishment of regional or consolidated schools, and to recommend to the general court such legislation as it may deem desirable or necessary to further the purposes of this act. The commission shall submit an annual report to the governor and the general court.

SECTION 5. For the purposes of this act, the following phrases shall be defined as follows:-

"Regional school" shall mean any public school established under any provision of law by the action of two or more cities or towns.

"Consolidated school" shall mean any school constructed or enlarged with the intent of eliminating one or more existing schools.

"Regional school building committee" shall mean any agency organized by two or more cities and towns under any provision of general or special law for the purpose of planning or constructing a regional school.

"Regional school district" shall mean any agency established for the purpose of operating a regional school.

"Approved school project" shall mean any project for the construction or enlargement of a regional, consolidated or county agricultural school, or of any public schoolhouse in any city or town, or of any central food production facility for the purpose of preparing school food services for distribution to any schools in a city, town, county, or regional school district, and shall include the original equipment and furnishings, whether movable or built in, to complete said project, the contract or contracts for which shall have been awarded on or after January the first, nineteen hundred and forty-six, by any city, town, county or regional school building committee, which has been approved by the commission for the purposes of sections seven through nine, inclusive. Approved school project shall also mean any project for the reconstruction, remodeling, rehabilitation and modernization of any schoolhouse in lieu of which, proper utilization of the present educational facilities would require complete structure replacement, the contract or contracts for which shall have been awarded on or after January first, nineteen hundred and sixty-eight, by any city, town or regional school building committee, which has been approved by the commission for the purposes of section seven through nine, inclusive, provided that the amount of money provided from the commonwealth for such reconstruction, remodeling, rehabilitation and modernization shall be limited to one third of the expenditure for new construction for the previous year. Approved school project shall, in addition, include any project for the construction, acquisition, or enlargement of central food production facilities for the purpose of preparing school lunches for distribution to any school or

schools in a city, town, county or regional school district or for the acquisition of a structure or structures and the alteration thereof for use as central food production facilities for such purpose, and shall include the original equipment and furnishings, whether movable or built in, to complete said project; provided, however, that the contract or contracts for any such project is awarded on or after January the first, nineteen hundred and seventy, and is approved by the commission for the purposes of sections seven through nine, inclusive.

"Enlargement of a schoolhouse" shall mean the construction of additional building space for use as a classroom, cafeteria, gymnasium, auditorium, utility room, boiler room, special activity room

"Net average membership" shall be as defined in section five of chapter seventy of the General Laws; provided, that the net average membership of a town belonging to a regional school district shall include the number of pupils residing in such town who attend the regional school.

"The equalized valuation" shall be established by the general court for the purpose of this act or, if no such valuation has been made, the last preceding valuation made for the purpose of apportioning the state tax.

"Equalized valuation per pupil" shall be the product of dividing the equalized valuation by the net average membership.

"County agricultural school" shall mean the county agricultural schools of Bristol, Norfolk and Essex counties as established under the provisions of sections twenty-five to thirty-seven, inclusive, of chapter seventy-four of the General Laws.

'County" shall mean any of the counties of Bristol, Norfolk or Essex.

SECTION 6. Any regional school district may apply to the commission for reimbursement, in whole or in part, of any expenses incurred on or after January first, nineteen hundred and forty-six, for educational, engineering and architectural services incidental to the planning of a regional school. Architectural services shall include preliminary studies, preliminary plans, working drawings and specifications, estimates and all other work customarily performed by an architect for the construction of a school prior to the execution of the construction contract by the awarding authority. Such application shall be accompanied by copies of such studies, plans, working drawings, specifications and estimates together with such additional information as the commission may require. The said commission may, if it is satisfied that the plans so submitted are satisfactory with respect to site, type and adequacy of the proposed construction for an approved school project in a regional school district and in the best interest of the re-

spective towns, and the expenses so incurred are reasonable, certify to the comptroller for payment to such regional school district such amount, not exceeding such expenses, as it may deem proper, and the state treasurer shall forthwith make the payments so certified from any funds appropriated therefor.

SECTION 6A. Any city, town or regional school district may apply to the commission for reimbursement, in whole or in part, of any expenses incurred on or after January first, nineteen hundred and forty-six, for surveys made of school building needs and conditions, the contract for which has been approved by the commission. The said commission may, upon completion of the survey, certify to the comptroller for payment to the city, town or regional school district such amount, not exceeding such expenses, as it may deem proper, and the state treasurer shall forthwith make the payments so certified from any funds appropriated therefor.

SECTION 7. Any city, town, regional school district or county may apply to the commission for a school construction grant to meet in part the cost of an approved school project. Such cost shall include interest paid or payable by such city, town, regional school district or county on any bonds or notes issued to finance such project. Such application shall be made, in the case of projects, the construction of which has been undertaken before the effective date of this act, within ninety days after such effective date, and in the case of all other projects, before construction has been undertaken. Such application shall be in the form prescribed by the commission, and shall be accompanied by such additional information, drawings, plans, estimates of cost, and proposals for defraying such cost, as the commission may require.

SECTION 7A. Any city, town, regional school district or county which is eligible for aid under the provisions of this chapter and establishes extended courses of instruction in a vocational school, as provided in section thirty-seven A of chapter seventy-four of the General Laws, and wishes to enlarge or construct a school for the purpose of maintaining such extended courses of instruction on a technical institute level shall be eligible for financial assistance in the construction or enlargement of such school in the manner and to the extent provided by this act.

SECTION 8. Forthwith upon receipt of an application under the provisions of section seven, the commission shall examine such application and any facts, estimates or other information relative thereto, and shall determine whether the proposed construction is in the best interests of the city, town, region or county, with respect to its site, type of construction, sufficiency of accommodations, and otherwise. If, in its opinion, such proposed construction should

be undertaken, the commission shall determine the estimated approved cost of such construction, which cost may be equal to the estimated cost furnished by such city, town, district or county or a lesser amount, and compute the amount estimated of construction grant to which the town would be entitled under the following section, such computation being based on said approved cost.

Within ninety days after receipt of such application the commission shall notify such city, town, district or county of its approval or rejection thereof, and, in the event of its rejection, of the reasons therefor. Notice of approval hereunder shall be accompanied by a statement of the estimated approved cost as determined by the commission, and an estimate of the amount of school construction grant to which such city, town, district or county may be entitled under the provisions of the following section.

The final approved cost shall be determined by the commission within a reasonable time after the acceptance of the completed project by the local school committee.

Any city or town which has received, in accordance with the provisions of the preceding section, notice of approval and an estimate of the amount of school construction grant to which such city or town may be entitled, may, during the time this chapter remains in effect, borrow from time to time for said approved school project an amount not exceeding said estimated grant, or such larger amount as may be approved by the emergency finance board established under chapter forty-nine of the acts of nineteen hundred and thirty-three, and may issue bonds or notes therefor which shall bear on their face the words, (name of city or town) School Project Loan, Act of 1948. Each authorized issue shall constitute a separate loan and such loans shall be paid in not more than twenty years from their dates. Indebtedness incurred under this act shall be in excess of the statutory limit, but shall, except as herein provided, be subject to the applicable provisions of chapter forty-four of the General Laws, exclusive of the limitation contained in the first paragraph of section seven thereof. The members of the aforesaid emergency finance board when acting under this paragraph shall receive from the commonwealth compensation to the same extent as provided under chapter three hundred and sixty-six of the acts of nineteen hundred and thirty-three, as amended, including chapter seventy-four of the acts of nineteen hundred and forty-five.

If the determination of the final approved cost is delayed because the construction is not completed, the payments preceding determination of the final approved cost may be based upon the estimated approved cost, and adjustment shall be made in the payment or payments which are made subsequent to the determination of the final approved cost.

SECTION 9. From time to time, the commission shall certify to the comptroller, and the state treasurer shall, within thirty days after each such certification, pay to the several cities, towns,

districts and counties, from any amounts appropriated therefor, the amounts due them in accordance with the following clauses:-

(a) The total construction grant for any approved school project in any city or town shall be fifty per cent of the final approved cost of such project; provided that the total construction grant for any project in cities and towns designated depressed areas or which have substantial or persistent unemployment shall be sixty-five per cent of the final approved cost of such project. For the purpose of this section a depressed area shall be considered as cities and towns which are designated as Groups D, E or F, in "Area Trends in Employment and Unemployment" by the United States Department of Labor or which are listed in said publication as areas which have substantial or persistent unemployment, and that the basis for the eligibility of a city or town for maximum state aid for new school construction for any buildings initiated thereafter shall be the October or November issue of "Area Trends in Employment and Unemployment" by the United States Department of Labor in the year in which, or the year preceding, said cities or towns request for such assistance.

(b) The total construction grant for any approved school project in any regional school district shall be one third of the product of the final approved cost of the project multiplied by the equalized valuation per pupil in net average membership for the entire commonwealth divided by the total equalized valuation per pupil in the total net average membership of the towns comprising such district; provided, however, that no grant shall be approved for any amount less than fifty per cent or more than sixty-five per cent of such approved cost; and provided, further, that regional school districts in which at least sixty per cent of all the member municipalities are designated as depressed or redevelopment areas or which have substantial or persistent unemployment shall be eligible for maximum state aid from the school building assistance commission for new construction. For the purpose of this clause a depressed area shall be considered as cities and towns which are designated as Group D, E or F, in "Area Trends in Employment and Unemployment" published by the United States Department of Labor or which are listed in said publication as areas which have substantial or persistent unemployment, and that the basis for the eligibility of a regional school district for maximum state aid for new school construction for any buildings initiated thereafter shall be the October or November issue of "Area Trends in Employment and Unemployment" by the United States Department of Labor in the year in which, or the year preceding, said regional school districts request such assistance; and a redevelopment area shall be considered as such cities and towns listed in a redevelopment area and designated in accordance with section 401 (a) (4) of the Public Works and Economic Development Act of 1965 (42 U.S.C. 3161).

(c) The total construction grant for any approved school project in any county shall be fifty per cent of the final approved cost of such project.

(d) The commission shall use the net average membership for the last school year and the last equalized valuation for the cities, towns and commonwealth, both next prior to the date of the award of the contract for such approved school project.

In the case of any approved school project to be financed in whole or in part from the proceeds of any sale of bonds or notes, the total construction grant shall be paid annually in equal parts to be determined by dividing the total grant by the number of years during which any indebtedness incurred for such project shall remain outstanding; provided, that if such number of years is less than five, the total grant shall be paid annually in five equal parts; and the payments hereinabove provided for shall begin in the calendar year in which the first payment of principal on account of such indebtedness shall become due and payable. In the case of any approved school project which is not to be financed from the proceeds of any sale of bonds or notes, the total grant shall be paid annually in five equal parts beginning in the calendar year in which the construction of such project has been commenced.

Notwithstanding any provisions to the contrary contained in the preceding paragraph, in the case of any approved school project of a city or town for which seventy-five thousand dollars or more has been appropriated from its stabilization fund under the provisions of section five B of chapter forty of the General Laws or, in the case of an approved school project of a regional school district for which seventy-five thousand dollars or more has been appropriated in the aggregate by the member towns from their stabilization funds, the total construction grant shall be paid in the following manner:- a sum equal to the amount so appropriated shall be paid in the year in which construction of such project has been commenced, such payment to be called the matching stabilization fund payment, but in no event shall such payment exceed one hundred thousand dollars or three fourths of the estimated amount of the construction grant, whichever is less, and the remainder of such construction grant shall be paid annually in equal parts to be determined by dividing such remainder by the number of years during which any indebtedness incurred for such project shall remain outstanding; provided that if such number of years is less than five, or if the project is not to be financed from the proceeds of any sale of bonds or notes, such remainder shall be paid annually in five equal parts; and in the case of a project for which indebtedness is incurred, the annual payments hereinabove provided for shall begin in the calendar year in which the first payment of principal on account of such indebtedness shall become due and payable, and in the case of a project which is not to be financed from the proceeds of any sale of bonds or notes, in the calendar year in which the construction of such project has been commenced. The provisions of this paragraph shall not apply unless the amount appropriated from the stabilization fund for the school project or the aggregate amount appropriated therefor from the stabilization funds of all the member towns of a regional school

district was contained in such fund or funds on December thirty-first of the year next prior to the date of the appropriation therefrom. The entire matching stabilization fund payment shall be applied to the cost of the school project provided, however, that whenever a school project has been approved by the commission, the treasurer of the city, town or regional school district with the approval of the mayor, selectmen or regional district school committee may incur debt outside the debt limit in anticipation of the proceeds of such payment and may issue notes therefor payable in not more than one year from their dates. Any such loan issued under this paragraph for a shorter period may be refunded by the issue of other notes maturing within one year from the date of the original loan being refunded.

Notwithstanding the provision of said section five B of said chapter forty that a town may appropriate from its stabilization fund only at an annual town meeting, a town may, for the purposes of the preceding paragraph, appropriate from said fund at either an annual or special town meeting by a two thirds vote.

SECTION 10. Sections one to nine of this act shall take effect on July the first of the current year, and shall cease to be operative on June the thirtieth, nineteen hundred and seventy-six, except that the payments provided by section nine shall be continued thereafter by the state treasurer, subject to appropriation, in accordance with the provisions of said section, on certification by the commissioner of education.

SECTION 11. Repealed by section five of chapter six hundred and thirty-seven of the acts of nineteen hundred and forty-nine.

REVISIONS:

Chapter 637 8/2/49	Section 5	
	Paragraph 6	- defines "approved school project"
	Paragraph 7	- defines "enlargement of a school-house"
	Section 9	
	Paragraph 3	- changed range of aid from 25%-50% to 35%-65%
	End	- added paragraph re: "outside the limit of indebtedness"
	Section 11	- repealed
Chapter 741 8/23/49	Section 9	
	End	- added paragraph re: indebtedness authorized since January 1, 1946
Chapter 490 5/29/50	Section 5	
	Paragraph 6	- amended to include "original equipment and furnishings, whether movable or built in, ..."
Chapter 508 6/6/50	Section 10	- changed "1951" to "1953"
Chapter 528 6/12/50	Section 8	
	Paragraph 1	- inserted "estimated" and clause re: computation of grant
	Paragraph 2	- changes 90 days to "a reasonable time"
	Paragraph 3	- added
	Paragraph 4	- added
	Paragraph 5	- added
	Section 9	
	Paragraph 2	- inserted "final"
	Paragraph 3	- inserted "final"
	Paragraph 5	- deleted "annual" in the first sentence - replaced "therefor" by "for such projects" in first sentence - deleted "and interest"
	Paragraph 6	- deleted
	Paragraph 7	- deleted
Chapter 447 6/28/51	Section 8	
	Paragraph 4	- replaced "been authorized to borrow money" by "incurred indebtedness"

Chapter 389 5/31/52	Section 8 Paragraph 4	- struck out fourth sentence
Chapter 413 6/6/52	Section 10	- changed "1953" to "1959"
Chapter 470 6/11/53	Section 5	- added to definition of "net average membership" provision for inclusion of member town's pupils attending regional school
Chapter 329 4/20/54	Section 9	- clarified this section by insertion of first sentence of paragraph (c); no change made in the formula
Chapter 345 4/27/54	Section 6 Section 6A	- replaced Section 6 by new Section 6 and 6A
Chapter 322 4/25/57	Section 7	- deleted the words "or the service of any debt incurred therefor" from the first sentence
Chapter 358 5/13/57	Section 9	- clarified this section by replacing that part of this section which precedes clause (a)
Chapter 703 9/4/57	Section 5 Section 7 Section 8 Section 9	- changed Sections 5, 7, 8, and 9 - so as to make the county agri- - cultural schools of Bristol, - Essex, and Norfolk eligible to receive state grants for the construction of schools
Chapter 356 6/4/58	Section 10	- changed "1959" to "1963"
Chapter 591 9/14/59	Section 9	- replaced last paragraph by a new paragraph which, in addition to preserving the provisions of the replaced paragraph, also provides for a matching grant in year of construction equal to amounts of $75,000 or more drawn by cities and towns (and towns in regional school districts) from their stabilization funds

Chapter 377 4/14/61	Section 9	- replaced last paragraph by three new paragraphs which limit the state's matching stabilization payment to $100,000 or three fourths of the estimated construction grant whichever is less, and which makes other changes with respect to the use of the stabilization fund and state grant
Chapter 471 5/17/61	Section 2	- changed Section 2 so as to increase the membership of the Commission from 5 to 7 members
	Section 8	- changed Section 8 by deleting the reference to maximum unit costs
	Section 9	- changed Section 9 by increasing the construction grants for cities, towns and county agricultural schools from a minimum of 20% to a minimum of 30% of the approved cost--Section 5 of Chapter 471 makes this increase from 20% to 30% partially retroactive
Chapter 467 6/10/63	Section 9	- changed Section 9 by increasing the construction grants for cities, towns and county agricultural schools from a minimum of 30% to a minimum of 40% of the approved cost, and for regional school districts from a minimum of 35% to a minimum of 40% of the approved cost--Section 4 of Chapter 467 makes these increases partially retroactive
Chapter 562 7/23/63	Section 7A	- Section 2 of Chapter 562 inserted a provision to authorize state school construction grants for post-secondary industrial, agricultural and technical facilities

Chapter 471 6/4/64	Section 10	- changed "1965" to "1971"
Chapter 707 7/19/68	Section 9	- changed clause (a) of Section 9 by providing for a maximum grant of 50% to cities and towns in a depressed area
Chapter 754 7/25/68	Section 5	- included reconstruction, remodeling; rehabilitation and modernization within the definition of an approved school project under certain circumstances
Chapter 904 9/3/69	Section 9	- changed clause (b) by providing for a maximum grant of 65% to regional school districts in which all the member cities and towns are in a depressed area
Chapter 793 8/26/70	Section 9	- changed clause (b) again by providing for a maximum grant of 65% to regional school districts in which at least sixty per cent of the member cities and towns are in a depressed or redevelopment area
Chapter 871 (Sections 5 and 7) 9/1/70	Section 5	- changed the definition of "approved school project" by including therein the construction acquisition and alteration of central food production facilities
Chapter 140 4/1/71	Section 8	- changed the second paragraph of section 8 by striking out the words "within a reasonable time" and inserting in place thereof the words "within ninety days."
Chapter 280 5/13/71	Section 10	- changed "1971" to "1976"
Chapter 1010 11/9/71	Section 7	- changed the definition of cost of an approved school project so as to include interest.

Section 9
clause (a) - eliminated the formula and provided that all cities and towns shall receive a flat grant of fifty per cent except cities and towns in depressed areas, which will receive a flat grant of sixty-five per cent. Changed the words "October-November" to "October or November."

clause (b) - changed the range for regional school districts from forty to sixty-five per cent to a range of fifty to sixty-five per cent and changed the words "October-November" to "October or November."

clause (c) - deleted the formula for counties, which will now receive a flat grant of fifty per cent.

clause (d) - made a technical change only.

(Retroactivity) - chapter 1010 is retroactive to all projects approved after 1/1/71.

EXCERPTS FROM CHAPTER 572 OF THE ACTS OF 1965

SECTION 42. The school building assistance commission, established by chapter six hundred and forty-five of the acts of nineteen hundred and forty-eight, is hereby abolished, and the terms of all members of said commission are hereby terminated. All powers, duties and liabilities of said commission shall hereafter be exercised and discharged by the board of education.

All employees of said school building assistance commission on the effective date of this section shall be transferred to the state department of education without loss of seniority, retirement or other rights.

All unexpended balances of moneys appropriated for said school building assistance commission shall be transferred to and made available for expenditure by the board of education.

SECTION 43. Notwithstanding the provisions of this act, any board, commission, council, division or other agency, whose powers are abolished, merged and consolidated with, transferred or allocated to the board of higher education or the board of education, established by this act, shall continue to function until said boards are organized.

[Note: The board of education was organized on February 24, 1966.]

SECTION 49. School projects begun or now in process of construction under the provisions of chapter six hundred and forty-five of the acts of nineteen hundred and forty-eight may be concluded in accordance with said chapter six hundred and forty-five. Pending applications for school building assistance shall be transferred to the board of education on the organization of said board and shall be processed by said board.

APPENDIX - F

CITIES OR TOWNS OF PERSISTENT UNEMPLOYMENT AND EMPLOYMENT

TABLE 40

CITIES OR TOWNS OF PERSISTENT UNEMPLOYMENT[45]

Abington
Acton
Acushnet
Adams
Agawam
Amesbury
Andover
Arlington
Ashburnham
Ashfield
Ashland
Athol
*Attleborough
Auburn
Avon
Barre
Bedford
Belchertown
Bellingham
Belmont
Berkley
Berlin
Bernardston
*Beverly
Billerica
Blackstone
Bolton
*Boston
Bourne
Boylston
Braintree
Bridgewater
Brimfield
*Brockton
Brookfield
Brookline
Buckland
Burlington
*Cambridge
Canton
Carver
Charlemont
Charlton
Chelmsford
*Chelsea
*Chicopee
Chilmark
Clarksburg
Clinton
Cohasset
Colrain
Concord
Conway
Dalton
Danvers
Dartmouth
Dedham
Deerfield
Dighton
Douglas
Dover
Dracut
Dudley
Duxbury
Easthampton
Easton
East Bridgewater
East Brookfield
East Longmeadow
Edgartown
Erving
Essex
*Everett
Fairhaven
*Fall River
*Fitchburg
Florida
Framingham
Franklin
*Gardner
Gay Head
Georgetown
Gill
*Gloucester
Grafton
Granby
Greenfield
Groveland
Gosnold
Hadley
Halifax
Hamilton
Hampden
Hanson
Hanover
Hardwick
*Haverhill
Hawley
Heath
Hingham
Holbrook
Holden

[45]U. S. Department of Labor - Manpower Administration, "Area Trends", October-November, 1971.

Sturbridge
Sudbury
Sutton
Sunderland
Swampscott
Swansea
*Taunton
Templeton
Tewksbury
Tisbury
Topsfield
Townsend
Truro
Tyngsborough
Upton
Uxbridge
Wakefield
Wales
Walpole
*Waltham
Ware
Wareham
Warren
Warwick
Watertown
Wayland
Webster
Wellesley
Wendell
Wenham
Westborough
West Boylston
West Bridgewater
West Brookfield
*Westfield
Westford
Weston
Westminster
West Newbury
Westport
Westwood
West Springfield
West Tisbury
Weymouth
Whately
Whitman
Wilbraham
Williamstown
Wilmington
Winchendon
Winchester
Winthrop
*Woburn
*Worcester
Wrentham

*	39	Cities
	244	Towns
	283	

December 20, 1971

TABLE 41

MASSACHUSETTS COMMUNITIES WHICH DO NOT QUALIFY FOR THE SIXTY-FIVE PER CENT STATE AID AND THEIR MOODY'S RATING

Aaa

None

Aa

Amherst
Barnstable

A

Chatham
Falmouth
Foxborough
Havard
Harwich
Holliston
Hopkinton
Littleton
Mansfield
Rutland
Yarmouth

Baa

Nantucket
Orleans
Sandwich

Unrated

Alford
Ashby
Ayer
Becket
Blandford
Boxborough
Boxford
Brewster
Carlisle
Cheshire
Chester
Chesterfield
Cummington
Dennis
Dunstable
Eastham
Egermont
Freetown
Goshen
Granville
Great Barrington
Groton
Hancock
Hatfield
Hinsdale
Huntington
Masphee
Middleton
Monterey
Montgomery
Mount Washington
New Marlborough
Otis
Pelham
Peru
Plainfield
Richmond
Russell
Sandisfield
Sheffield
Southampton
Stockbridge
Sunderland
Tolland
Tyringham
Washington
Wellfleet
West Stockbridge
Westhampton
Williamsburg
Windsor
Worthington

APPENDIX - G

MASSACHUSETTS MUNICIPALITIES AND REGIONAL SCHOOL DISTRICTS, MOODY RATING AND BOND SALES DURING THE PERIOD 1967-1968

Regional School Districts

Acton-Boxborough	- A	Lincoln-Sudbury	- A
Amherst-Pelham	- Aa	Martha's Vineyard	-
Ashburnham-Westminster	- A	Mendon-Upton	- A
Athol-Royalston	- A	Mohawk Trail	- A
Berkshire Hills	- A	Mount Greylock	- Aa
Berlin-Boylston	- Baa	Narragansett	- Baa
Bridgewater-Raynham	- A	Nashoba	- A
Buckland-Shelburne	-	Northboro-Southboro	- A
Central Berkshire	- A	North Middlesex	- A
Concord-Carlisle	- A	Old Rochester	- A
Dennis-Yarmouth	- A	Pentucket	- A
Dighton-Rehoboth	- A	Pioneer Valley	- A
Dover-Sherborn	- A	Plymouth-Carver	- Aa
Eastham-Orleans-Wellfleet	- Baa	Quabbin	- Baa
Freetown-Lakeville	- Baa	Quabog	- Baa
Frontier	-	Ralph C. Mahar	- A
Gateway	- A	Silver Lake	-
Hamilton-Wenham	- A	Southern Berkshire	- A
Hampden-Wilbraham	- A	Tantasqua	- A
Hawlemont	-	Wachusett	- A
King Philip	- A	Whitman-Hanson	- A

Regional Vocational Schools

Blackstone Valley	- Baa	Nashoba Valley	- A
Blue Hills	- A	Shawsheen Valley	-
French King	-	South Shore	- A
Greater Lawrence	- A	Southeastern	- A
Northern Berkshire	- Aa	Tantasqua	-
Montachusett	-	Upper Cape Cod	- A

MOODY'S RATINGS OF MASSACHUSETTS MUNICIPALITIES

State of Massachusetts - Aa

Abington	- A	Brockton	- A
Acton	- A	Brookline	- Aaa
Agawam	- A	Burlington	- A
Amesbury	- A	Cambridge	- Aa
Amherst	- Aa	Canton	- A
Andover	- Aa	Chatham	- A
Arlington	- Aa	Chelmsford	- A
Ashburnham	- A	Chelsea	- A
Ashland	- A	Chicopee	- A
Athol	- A	Clinton	- A
Attleboro	- Aa	Cohasset	- A
Auburn	- A	Concord	- Aa
Avon	- A	Dalton	- A
Barnstable	- Aa	Danvers	- Aa
Bedford	- A	Dartmouth	- A
Belchertown	- A	Dedham	- Aa
Bellingham	- A	Dracut	- A
Beverly	- Aa	Dudley	- A
Billerica	- A	Duxbury	- Aa
Blackstone	- Baa	East Bridgewater	- A
Boston	- Baa	East Longmeadow	- A
Bourne	- A	Easthampton	- Aa
Braintree	- A	Easton	- A

Everett	- Aa	Holliston	- A
Fairhaven	- A	Holyoke	- Aa
Fall River	- A	Hopedale	- A
Falmouth	- A	Hopkinton	- A
Fitchburg	- Aa	Hudson	- A
Foxborough	- A	Hull	- A
Framingham	- Aa	Ipswich	- A
Franklin	- A	Lawrence	- A
Gardner	- Aa	Lee	- A
Georgetown	- A	Leicester	- A
Gloucester	- Aa	Lenox	- A
Grafton	- A	Leominster	- Aa
Granby	- Baa	Lexington	- A
Greenfield	- Aa	Lincoln	- A
Groveland	- A	Littleton	- A
Hadley	- A	Longmeadow	- Aa
Halifax	- A	Lowell	- A
Hanover	- A	Ludlow	- A
Hanson	- A	Lunenburg	- A
Harvard	- A	Lynn	- Aa
Hardwick	- A	Lynnfield	- A
Haverhill	- A	Malden	- Aa
Hingham	- A	Mansfield	- A
Holbrook	- A	Marblehead	- Aa
Holden	- A	Marlborough	- A

Marshfield	- A	North Reading	- A
Mattapoisett	- A	Northampton	- Aaa
Maynard	- A	Northborough	- A
Medfield	- A	Northbridge	- A
Medford	- Aa	Norton	- A
Medway	- A	Norwell	- A
Melrose	- A	Norwood	- Aa
Merrimac	- A	Orleans	- Baa
Methuen	- A	Oxford	- A
Middleborough	- A	Palmer	- Aa
Milford	- Baa	Paxton	- A
Millbury	- A	Peabody	- A
Millis	- A	Pembroke	- A
Milton	- Aa	Pepperell	- A
Monson	- A	Pittsfield	- Aa
Montague	- A	Plymouth	- Aa
Nahant	- A	Princeton	- Baa
Nantucket	- Baa	Provincetown	- A
Natick	- A	Quincy	- Aa
Needham	- Aa	Randolph	- A
New Bedford	- A	Raynham	- A
Newburyport	- A	Reading	- A
Newton	- Aa	Revere	- Baa
North Adams	- Aa	Rockland	- A
North Attleboro	- A	Rockport	- A

Rowley	- A	Topsfield	- A
Rutland	- A	Tyngsborough	- A
Salem	- Aaa	Wakefield	- A
Sandwich	- Baa	Walpole	- A
Saugus	- A	Waltham	- Aa
Scituate	- A	Ware	- A
Seekonk	- A	Wareham	- A
Sharon	- A	Watertown	- Aa
Shrewsbury	- A	Wayland	- A
Somerset	- Aa	Webster	- A
Somerville	- Aa	Wellesley	- Aaa
South Hadley	- A	West Boylston	- A
Southborough	- A	West Bridgewater	- A
Southbridge	- Aa	West Springfield	- Aa
Southwick	- A	Westborough	- A
Springfield	- Aa	Westfield	- Aa
Sterling	- A	Westford	- A
Stoneham	- Aa	Weston	- Aa
Stoughton	- A	Westwood	- A
Stow	- A	Weymouth	- A
Sudbury	- A	Whitman	- A
Swampscott	- Aa	Wilbraham	- Aa
Swansea	- Baa	Wilmington	- Aa
Taunton	- Aa	Winchendon	- A
Tewksbury	- A	Winchester	- Aaa

Winthrop	- A	Worcester	- Aa
Woburn	- A	Yarmouth	- A

Municipality or School District and Bond Rating, If Any		Sale Date	Term in Years	Net Interest	Principal
Acton	(A)	9/12/67	20	4.05	1,145,000
Amesbury	(A)	10/25/67	20	4.33	3,500,000
Andover	(Aa)	11/9/67	20	4.05	2,700,000
Arlington	(Aa)	11/14/67	20	4.08	346,000
Attleboro	(Aa)	6/5/68	20	4.29	3,555,000
Bedford	(A)	6/12/68	20	4.28	2,055,000
Boston	(Baa)	11/14/67	10 1/2	4.4849	2,300,000
Boston	(Baa)	7/11/67	20	4.3425	2,200,000
Braintree	(A)	11/20/67	10	4.24	530,000
Bridgewater	(A)	1/4/68	20	4.49	1,585,000
Brockton	(A)	3/13/68	20	4.50	4,750,000
Brockton	(A)	6/26/68	20	4.43	3,350,000
Chelmsford	(A)	4/10/68	20	4.26	3,100,000
Chicopee	(A)	10/2/67	20	4.14	1,000,000
Cohasset	(A)	2/27/68	20	4.33	1,890,000
Concord	(Aa)	4/25/68	20	4.23	2,290,000
Dartmouth	(A)	1/8/68	20	4.37	250,000
Dedham	(Aa)	7/27/67	20	3.77	240,000
Dennis	( )	5/15/68	20	4.48	2,440,000
Duxbury	(Aa)	11/16/67	20	4.09	2,040,000
East Longmeadow	(A)	1/18/68	20	4.24	1,285,000
Fall River	(A)	11/15/67	20	4.34	3,700,000
Fitchburg	(Aa)	5/23/68	20	4.54	1,990,000
Framingham	(Aa)	1/10/68	18	4.05	1,800,000
Georgetown	(A)	10/5/67	20	4.33	1,215,000
Hingham	(A)	6/11/68	20	4.44	1,695,000
Holliston	(A)	10/4/67	20	4.34	5,200,000
Ipswich	(A)	11/7/67	5	3.58	119,000
Lawrence	(A)	3/21/68	20	4.38	1,100,000

Municipality or School District and Bond Rating, If Any		Sale Date	Term in Years	Net Interest	Principal
Longmeadow	(Aa)	9/27/67	20	3.9406	2,065,000
Lowell	(A)	3/19/68	20	4.49	2,700,000
Lunenburg	(A)	8/29/69	20	4.15	1,340,000
Lynn	(Aa)	3/4/68	20	4.27	500,000
Lynnfield	(A)	6/25/68	20	4.35	1,225,000
Mansfield	(A)	10/17/67	20	4.39	2,900,000
Marshfield	(A)	3/27/68	20	4.48	3,235,000
Medford	(Aa)	5/16/68	20	4.48	15,800,000
Methuen	(A)	12/5/67	1	4.39	715,000
Millbury	(A)	8/22/67	20	4.04	1,325,000
Norwood	(Aa)	12/19/67	20	4.35	3,823,000
Pittsfield	(Aa)	8/1/67	20	3.77	275,000
Princeton	(Baa)	9/14/67	20	4.28	795,000
Revere	(Baa)	11/16/67	20	4.49	1,613,000
Rockland	(A)	3/14/68	20	4.66	2,775,000
Salem	(Aaa)	7/25/67	20	3.55	145,000
Scituate	(A)	9/27/67	20	4.13	680,000
Somerset	(Aa)	12/14/67	20	4.13	1,000,000
Tyngsborough	(A)	11/2/67	20	4.29	1,695,000
Waltham	(Aa)	6/4/68	20	4.23	4,275,000
Westford	(A)	6/19/68	20	4.47	1,175,000
Weston	(Aa)	4/2/68	20	4.14	4,015,000
Whitman	(A)	9/28/67	10	4.08	570,000
West Springfield	(Aa)	7/10/67	5	3.41	170,000
Wilbraham	(Aa)	9/19/67	10	3.74	2,200,000
Woburn	(A)	7/12/67	20	4.07	2,800,000
Worcester	(Aa)	2/14/68	20	3.997	1,435,000
Wrentham	( )	6/18/68	15	4.43	355,000
Yarmouth	(A)	11/21/67	20	4.39	3,100,000

Municipality or School District and Bond Rating, If Any		Sale Date	Term in Years	Net Interest	Principal
Amherst-Pelham Regional School District	(Aa)	2/15/68	20	4.14	4,785,000
Dover-Sherborn Regional School District	(A)	12/12/67	20	4.48	3,220,000
Northboro-Southboro Regional School District	(A)	5/28/68	20	4.68	2,290,000
Quaboag Regional School District	(Baa)	8/3/67	20	4.21	2,100,000
Silver Lake Regional School District	( )	4/1/68	10	4.36	80,000
Upper Cape Cod Regional Vocational Technical School District	(A)	10/10/67	20	4.34	3,235,000